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

INDUSTRY CANADA RSS-130 ISSUE 1
INDUSTRY CANADA RSS-132 ISSUE 3
INDUSTRY CANADA RSS-133 ISSUE 6
INDUSTRY CANADA RSS-139 ISSUE 2
INDUSTRY CANADA RSS-199 ISSUE 1

C2PC CERTIFICATION TEST REPORT

FOR

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

MODEL NUMBER: LG-VS985, VS985, LGVS985, AS985 LG-AS985 & LGAS985

FCC ID: ZNFVS985

IC: 2703C-VS985

REPORT NUMBER: 14U17777-1

ISSUE DATE: MAY 21, 2014

Prepared for

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
-	05/21/14	Initial Issue	P. Zhang

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	**LG ELECTRONICS MOBILECOMM U.S.A., INC.**
EUT DESCRIPTION:	**GSM/CDMA/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac and NFC.**
MODEL:	**LG-VS985, VS985, LGVS985, AS985 LG-AS985 & LGAS985**
SERIAL NUMBER:	**1873283 (Radiated)**
DATE TESTED:	**MAY 12 - 21, 2014**

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22H, 24E and 27F	PASS
INDUSTRY CANADA RSS-130,132,133,139,199	PASS
INDUSTRY CANADA RSS-GEN ISSUE 3	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

For UL Verification Services Inc. By:

PENG ZHANG
CONSUMER TECHNOLOGY DIVISION

PROJECT LEAD
UL Verification Services Inc.

Tested By:

CHARLES VERGONIO
CONSUMER TECHNOLOGY DIVISION

LAB ENGINEER
UL Verification Services Inc.

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; RSS-130, RSS-132, RSS-133, RSS-139, RSS-199, and RSS-GEN ISSUE 3.

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
Radiated Disturbance, 30 to 1000 MHz	4.94 dB
Radiated Disturbance, 1GHz to 40GHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

5.2. MAXIMUM OUTPUT POWER

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

FCC Part 22/2 4; RSS 132,133						
Band	Frequency Range(MHz)	Modulation Peak	Conducted		Radiated	
			Peak (dBm)	Peak (mW)	Peak (dBm)	Peak (mW)
GSM850	824~849	GMSK	33.0	1995.26		
	824~849	GPRS	33.1	2041.73	28.171	656.3
	824~849	EGPRS	27.7	588.84	24.251	266.13
GSM1900	1850~1910	GMSK	30.6	1148.15		
	1850~1910	GPRS	30.7	1174.89	29.74	941.89
	1850~1910	EGPRS	26.7	467.73	26.49	445.66

FCC Part 22/2 4;RSS 132,133						
Band	Frequency Range(MHz)	Modulation Peak	Conducted		Radiated	
			Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
Band 5	824~849	REL99	23.5	223.87	19.871	97.07
	824~849	HSDPA	23.7	234.42	19.881	97.3
	824~849	HSUPA	23.2	214.78		
Band 2	1850~1910	REL99	23.6	229.08	22.9	194.98
	1850~1910	HSDPA	23.6	229.08	23.17	207.49
	1850~1910	HSUPA	23.1	204.17		
BC0	824~849	1xRTT	24.6	288.40	22.731	187.54
	824~849	EVDO REL. 0	24.6	288.40	22.161	164.48

	824~849	EVDO REV. A	24.6	288.40		
BC1	1850~1910	1xRTT	24.7	295.12	22.34	171.4
	1850~1910	EVDO REL. 0	24.4	275.42	22.17	164.82
	1850~1910	EVDO REV. A	24.4	275.42		

5.3. MAXIMUM OUTPUT POWER (LTE)

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

FCC Part 27;RSS 130							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE13	777~787	10MHz	QPSK	24.1	257.04	17.55	56.89
	777~787	10MHz	16QAM	23.0	199.53	17.39	54.83

RSS 199							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE7	2500~2570	5MHz	QPSK	22.1	162.18	19.49	88.92
	2500~2570	5MHz	16QAM	20.7	117.48	18.2	66.07

RSS 199							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE7	2500~2570	10MHz	QPSK	22.2	165.95	19.31	85.31
	2500~2570	10MHz	16QAM	20.7	117.48	17.93	62.09

RSS 199							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE7	2500~2570	15MHz	QPSK	22.2	165.96	19.11	81.47
	2500~2570	15MHz	16QAM	21.0	125.89	17.97	62.66

RSS 199							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE7	2500~2570	20MHz	QPSK	22.2	165.96	18.82	76.21
	2500~2570	20MHz	16QAM	21.1	128.82	17.83	60.67

FCC Part 27,RSS 139							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE4	1710~1755	5MHz	QPSK	24.2	263.02	22.92	195.88
	1710~1755	5MHz	16QAM	22.8	190.54	22.09	161.81

FCC Part 27,RSS 139							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE4	1710~1755	10MHz	QPSK	24.2	263.02	23	199.53
	1710~1755	10MHz	16QAM	22.9	194.98	22.39	173.38

FCC Part 27,RSS 139							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE4	1710~1755	15MHz	QPSK	24.1	257.03	23.53	225.42
	1710~1755	15MHz	16QAM	22.9	194.98	22.85	192.75

FCC Part 27,RSS 139							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
			Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)
LTE4	1710~1755	20MHz	QPSK	24.2	263.02	23.32	214.78
	1710~1755	20MHz	16QAM	22.9	194.98	22.88	194.09

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)
Band 5, 824~849MHz	-4.97
Band 2, 1850~1910MHz	-2.06
LTE4, 1710~1755MHz	-4.43
LTE7, 2500~2570MHz	-8.6
LTE13, 777~787MHz	-7.77

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-04WT2	TA350000050	N/A
Earphone	LG	N/A	N/A	N/A
WPC Cover	LG	N/A	N/A	N/A
WPC Charger	LG	WPC-300	304HYBF00069	BEJWCP300

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	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

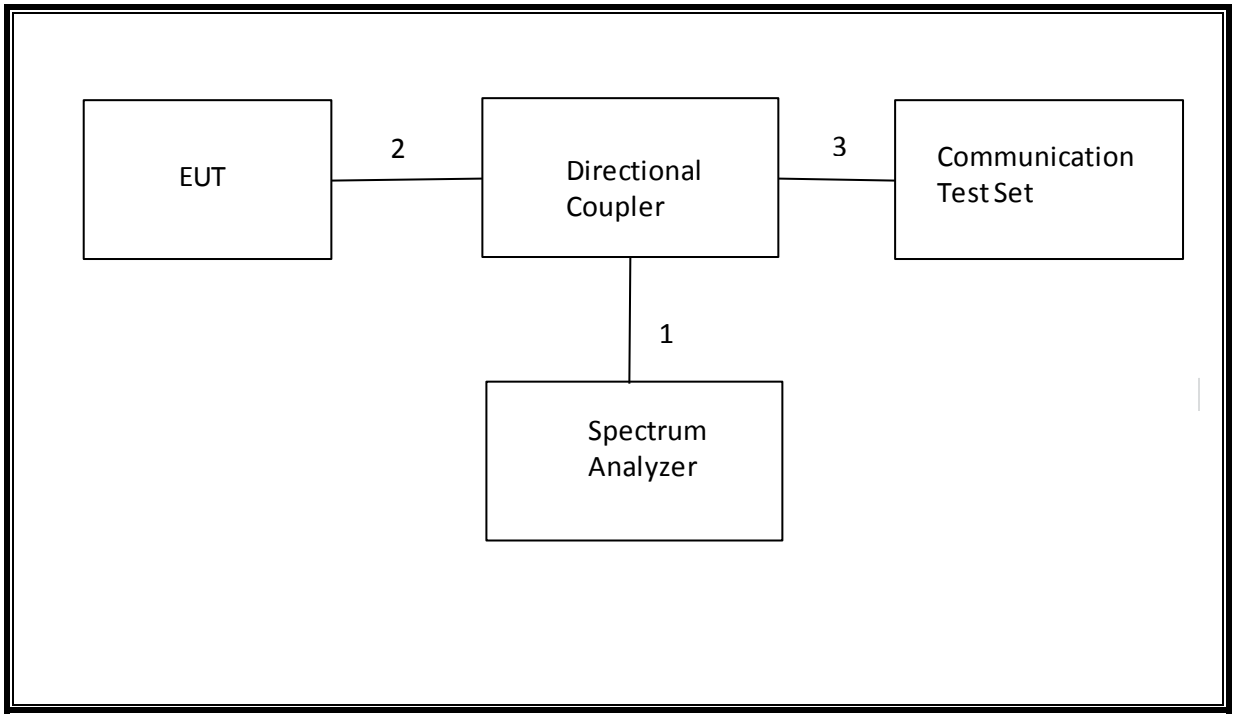
I/O CABLES (RADIATED SETUP)

I/O CABLE LIST						
Cable No.	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

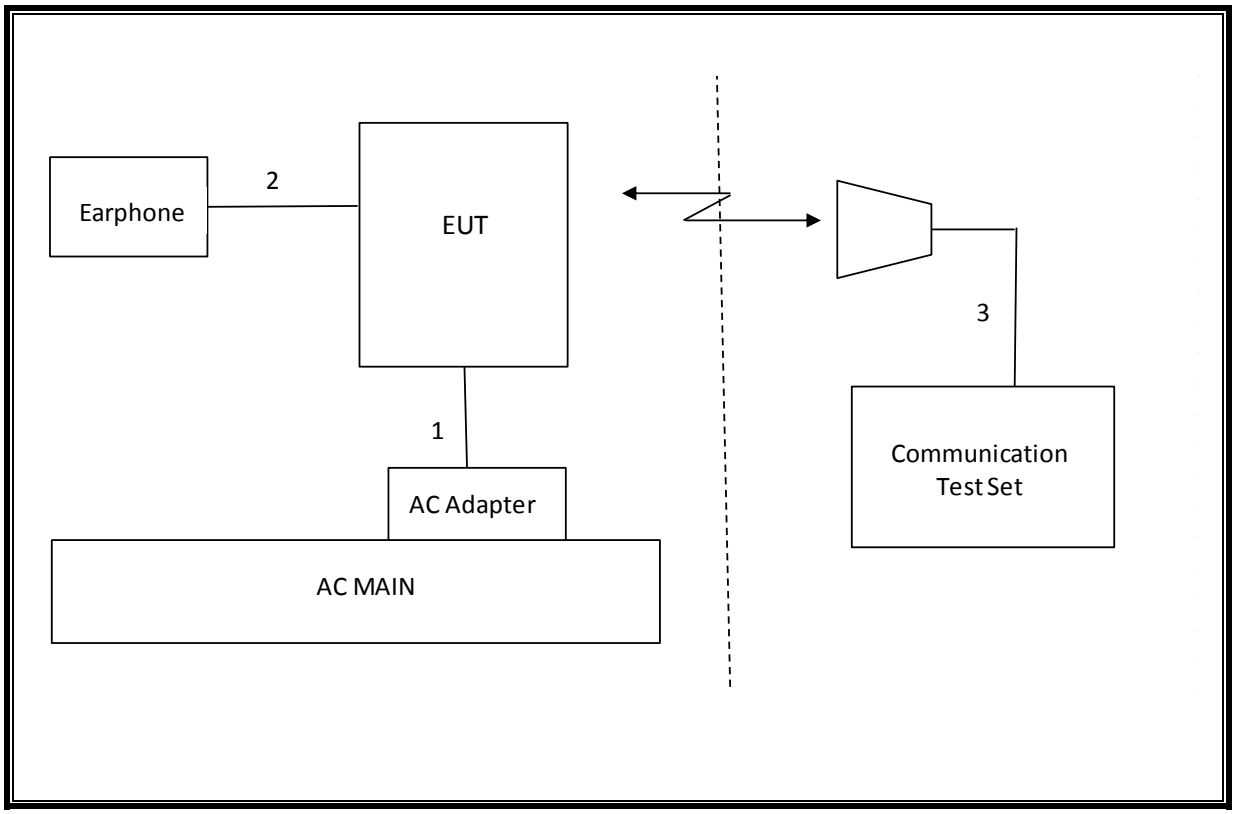
TEST SETUP

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)



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

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	Conducted	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		Pass	see original
2.1046	N/A	Conducted output power	N/A		Pass	see original
22.355 24.235 27.54	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3)	Frequency Stability	2.5PPM		Pass	see original
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	28.171dBm
27.50(b)(10)	RSS-130		34.77 dBm		Pass	17.55dBm
24.232(c)	RSS-133(6.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	29.74dBm
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass	23.53dBm
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	-38.8dBm

8. RF POWER OUTPUT VERIFICATION

8.1. GSM/GPRS/EDGE

Function: Menu select > GSM Mobile Station > GSM 850/900/1800/1900

Press Connection control to choose the different menus

Press RESET > choose all to reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM+GPRS or GSM+EGPRS

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config bottom on the right twice to select and change the number of time slots and power setting

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850/900

> 30 dBm for GPRS1800/1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0> 4 dB

Slot Config > Unchanged (if already set under MS Signal)

TCH > choose desired test channel

Hopping > Off

Main Timeslot > 3 (Default)

Network Coding Scheme > CS4 (GPRS) and MCS5 ~ MCS9 (EGPRS)

Bit Stream > 2E9-1PSR Bit Pattern

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal On to turn on the signal and change settings

8.1.1. GSM OUTPUT POWER RESULT

Band	Mode	Ch.	f(MHz)	1 time slot	2 time slot	3 time slot	4 time slot
				Peak (dBm)	Peak (dBm)	Peak (dBm)	Peak (dBm)
GSM850	GMSK	128	824.2	33.0			
		190	836.6	33.0			
		251	848.8	32.9			
	GPRS	128	824.2	33.1	30.2		
		190	836.6	33.0	30.1		
		251	848.8	33.0	30.4		
	EGPRS	128	824.2	27.7	27.7		
		190	836.6	27.6	27.6		
		251	848.8	27.7	27.7		
GSM1900	GMSK	512	1850.2	30.6			
		661	1880	30.6			
		810	1909.8	30.5			
	GPRS	512	1850.2	30.7	28.5		
		661	1880	30.6	28.3		
		810	1909.8	30.6	28.5		
	EGPRS	512	1850.2	26.6	26.2		
		661	1880	26.6	26.3		
		810	1909.8	26.6	26.3		

8.2. UMTS REL 99

TEST PROCEDURE

The following summary of these settings are illustrated below:

	Mode	Rel99
	Subtest	-
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	HSDPA FRC	Not Applicable
	HSUPA Test	Not Applicable
	Power Control Algorithm	Algorithm2
	βc	Not Applicable
	βd	Not Applicable
	βec	Not Applicable
	βc/βd	8/15
	βhs	Not Applicable
	βed	Not Applicable

8.2.1. UMTS REL 99 OUTPUT POWER RESULT

Band	Mode	Ch.	f(MHz)	Conducted Power (dBm) Avg (dBm)
Band 5	REL99	4132	826.4	23.5
		4183	836.6	23.5
		4233	846.6	23.5
Band 2	REL99	9262	1852.4	23.6
		9400	1880	23.5
		9538	1907.6	23.5

8.3. UMTS HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	Rel5 HSDPA			
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

8.3.1. UMTS HSDPA OUTPUT POWER RESULT

Band	Mode	Subset	Ch.	f(MHz)	Conducted Power (dBm) Avg (dBm)
Band 5	HSDPA	1	4132	826.4	23.3
			4183	836.6	23.2
			4233	846.6	23.4
		2	4132	826.4	23.7
			4183	836.6	23.3
			4233	846.6	23.5
		3	4132	826.4	23.2
			4183	836.6	22.8
			4233	846.6	23.0
		4	4132	826.4	23.2
			4183	836.6	22.8
			4233	846.6	23.0
Band 2	HSDPA	1	9262	1852.4	23.6
			9400	1880	23.5

			9538	1907.6	23.6
		2	9262	1852.4	23.6
			9400	1880	23.5
			9538	1907.6	23.6
		3	9262	1852.4	23.0
			9400	1880	23.0
			9538	1907.6	23.2
		4	9262	1852.4	23.0
			9400	1880	23.0
			9538	1907.6	23.2

8.3.2. UMTS HSUPA

TEST PROCEDURE

The following summary of these settings are illustrated below: (ETSI TS 134.121-1 Table C.11.1)

	Mode	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	P-CPICH (dB)	-10				
	P-CCPCH (dB)	-12				
	SCH (dB)	-12				
	PICH(dB)	-15				
	DPCH (dB)	-9				
	HS-SCCH_1 (dB)	-8				
	HS-PDSCH (dB)	-3				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	Bc	11/15	6/15	15/15	2/15	15/15
	Bd	15/15	15/15	9/15	15/15	15/15
	Bec	209/225	12/15	30/15	2/15	5/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	Bhs	22/15	12/15	30/15	4/15	30/15
	βed (note1)	1309/225	94/75	47/15 47/15	56/75	134/15
	MPR	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	Reference E-TFCIs	5	5	2	5	5
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27	

Note1: βed cannot be set directly, it is set by Absolute Grant Value.

8.3.3. UMTS HSUPA OUTPUT POWER RESULT

Band	Mode	Subset	Ch.	f(MHz)	Conducted Power (dBm) Avg (dBm)
Band 5	HSUPA	1	4132	826.4	22.9
			4183	836.6	23.1
			4233	846.6	23.2
		2	4132	826.4	21.5
			4183	836.6	21.5
			4233	846.6	21.8
		3	4132	826.4	22.8
			4183	836.6	22.6
			4233	846.6	22.5
		4	4132	826.4	21.9
			4183	836.6	22.2
			4233	846.6	22.2
		5	4132	826.4	22.6
			4183	836.6	22.5
			4233	846.6	23.1
Band 2	HSUPA	1	9262	1852.4	22.8
			9400	1880	23.1
			9538	1907.6	22.5
		2	9262	1852.4	21.7
			9400	1880	20.5
			9538	1907.6	21.7
		3	9262	1852.4	22.8
			9400	1880	23.1
			9538	1907.6	22.9
		4	9262	1852.4	21.9
			9400	1880	22.2
			9538	1907.6	21.8
		5	9262	1852.4	22.7
			9400	1880	22.9
			9538	1907.6	23.7

8.4. CDMA2000

8.4.1. 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
  - Rvs Power Ctrl > All Up bits (Maximum TxPout)

8.4.2. CDMA2000 OUTPUT POWER RESULT

1xRTT **Full Power**

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC 0	RC1, SO55 (Loopback)	1013	824.70	24.4
		384	836.52	24.6
		777	848.31	24.5
	RC3, SO55 (Loopback)	1013	824.70	24.4
		384	836.52	24.6
		777	848.31	24.5
	RC3, SO32 (+F-SCH)	1013	824.70	24.4
		384	836.52	24.6
		777	848.31	24.5

1xRTT **Full Power**

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC 1	RC1 SO55 (Loopback)	25	1851.25	24.6
		600	1880.00	24.6
		1175	1908.75	24.7
	RC3 SO55 (Loopback)	25	1851.25	24.6
		600	1880.00	24.6
		1175	1908.75	24.6
	RC3 SO32 (+F-SCH)	25	1851.25	24.6
		600	1880.00	24.6
		1175	1908.75	24.7

8.4.3. 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
  - 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
  - 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)

8.4.4. 1XEVDO REL 0 OUTPUT POWER RESULT

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2 kbps (2 slot, QPSK)	1013	824.70	24.5
		384	836.52	24.6
		777	848.31	24.5

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC 1	307.2 kbps (2 slot, QPSK)	25	1851.25	24.3
		600	1880.00	24.3
		1175	1908.75	24.4

8.4.5. 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
- 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 > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

8.4.6. 1xEVDO REV A OUTPUT RESULT

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2k, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	24.5
		384	836.52	24.7
		777	848.31	24.5

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC 1	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	24.2
		600	1880	24.3
		1175	1908.75	24.4

8.5. LTE OUTPUT VERIFICATION

8.5.1. LTE OUTPUT RESULT

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23230
						782 MHz
LTE Band 13	10	QPSK	1	0	0	24.1
			1	25	0	24.0
			1	49	0	24.0
			25	0	1	23.0
			25	12	1	23.0
			25	25	1	23.0
			50	0	1	23.1
		16QAM	1	0	1	23.0
			1	25	1	23.0
			1	49	1	23.0
			25	0	2	22.0
			25	12	2	22.0
			25	25	2	22.0
			50	0	2	22.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20850	21100	21350
						2510 MHz	2535 MHz	2560 MHz
LTE Band 7	20	QPSK	1	0	0	22.1	22.2	22.1
			1	49	0	22.0	22.2	22.1
			1	99	0	22.0	22.2	22.1
			50	0	1	21.0	21.2	21.1
			50	24	1	21.0	21.2	21.1
			50	50	1	21.0	21.2	21.1
			100	0	1	21.0	21.2	21.1
		16QAM	1	0	1	21.0	21.1	21.0
			1	49	1	20.8	21.1	21.0
			1	99	1	20.8	21.1	20.8
			50	0	2	20.0	20.2	20.0
			50	24	2	20.0	20.1	20.0
			50	50	2	20.0	20.1	20.0
			100	0	2	20.0	20.1	20.0
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20825	21100	21375
						2507.5 MHz	2535 MHz	2562.5 MHz
LTE Band 7	15	QPSK	1	0	0	22.1	22.2	22.2
			1	37	0	22.0	22.2	22.2
			1	74	0	22.0	22.2	22.1
			36	0	1	21.0	21.1	21.1
			36	20	1	20.9	21.1	21.1
			36	39	1	20.9	21.1	21.0
			75	0	1	21.0	21.1	21.1
		16QAM	1	0	1	21.0	20.7	20.6
			1	37	1	20.9	20.7	20.7
			1	74	1	20.9	20.7	20.6
			36	0	2	20.0	20.0	20.0
			36	20	2	19.8	20.0	20.0
			36	39	2	19.8	20.0	19.9
			75	0	2	19.9	20.0	19.9
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20800	21100	21400
						2505 MHz	2535 MHz	2565 MHz
LTE Band 7	10	QPSK	1	0	0	22.1	22.2	22.2
			1	25	0	22.0	22.2	22.2
			1	49	0	22.0	22.2	22.1
			25	0	1	21.1	21.2	21.2
			25	12	1	21.0	21.2	21.1

			25	25	1	21.0	21.2	21.1
			50	0	1	21.1	21.2	21.1
		16QAM	1	0	1	20.6	20.7	20.7
			1	25	1	20.6	20.7	20.6
			1	49	1	20.5	20.7	20.6
			25	0	2	20.0	20.0	20.1
			25	12	2	20.0	20.1	20.1
			25	25	2	19.9	20.1	20.0
			50	0	2	20.0	20.1	20.0

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20775	21100	21425
						2502.5 MHz	2535 MHz	2567.5 MHz
LTE Band 7	5	QPSK	1	0	0	22.0	22.1	22.1
			1	12	0	22.0	22.1	22.1
			1	24	0	22.0	22.1	22.1
			12	0	1	21.1	21.2	21.0
			12	7	1	21.1	21.2	21.1
			12	13	1	21.1	21.2	21.1
			25	0	1	21.1	21.2	21.1
		16QAM	1	0	1	20.6	20.7	20.6
			1	12	1	20.5	20.6	20.5
			1	24	1	20.6	20.7	20.6
			12	0	2	20.0	20.1	20.1
			12	7	2	20.0	20.1	20.0
			12	13	2	20.0	20.1	20.0
			25	0	2	20.1	20.2	20.1

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20050	20175	20300
						1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0	24.1	24.1	24.1
			1	49	0	24.1	24.2	24.2
			1	99	0	24.2	24.2	24.1
			50	0	1	23.0	23.0	23.1
			50	24	1	23.0	23.0	23.1
			50	50	1	23.0	23.0	23.2
			100	0	1	23.0	23.0	23.2
		16QAM	1	0	1	22.7	22.8	22.8
			1	49	1	22.8	22.8	22.8
			1	99	1	22.8	22.9	22.7
			50	0	2	22.0	22.0	22.1
			50	24	2	22.0	22.0	22.1
			50	50	2	22.0	22.0	22.1

			100	0	2	22.0	22.0	22.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20025	20175	20325
						1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	24.0	24.0	24.1
			1	37	0	23.9	24.1	24.1
			1	74	0	24.0	24.1	24.1
			36	0	1	23.0	23.1	23.1
			36	20	1	22.9	23.0	23.1
			36	39	1	22.9	23.0	23.0
			75	0	1	23.0	23.0	23.1
		16QAM	1	0	1	22.4	22.5	22.9
			1	37	1	22.4	22.5	22.9
			1	74	1	22.4	22.5	22.9
			36	0	2	21.7	22.0	22.0
			36	20	2	21.7	21.8	22.0
			36	39	2	21.8	21.8	22.0
			75	0	2	21.8	21.9	22.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20000	20175	20350
						1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	23.9	24.2	24.2
			1	25	0	24.0	24.1	24.2
			1	49	0	24.1	24.1	24.1
			25	0	1	23.0	23.0	23.0
			25	12	1	23.0	23.0	23.1
			25	25	1	22.9	23.0	23.1
			50	0	1	23.1	23.1	23.1
		16QAM	1	0	1	22.4	22.8	22.6
			1	25	1	22.4	22.6	22.6
			1	49	1	22.4	22.6	22.5
			25	0	2	21.8	22.0	22.1
			25	12	2	22.0	22.0	22.1
			25	25	2	21.8	22.0	22.0
			50	0	2	22.0	22.0	22.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19975	20175	20375
						1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0	24.0	24.1	24.2
			1	12	0	24.0	24.1	24.2
			1	24	0	24.0	24.1	24.2
			12	0	1	23.0	23.0	23.2
			12	7	1	23.0	23.0	23.2

			12	13	1	23.0	23.0	23.0
			25	0	1	23.0	23.0	23.2
		16QAM	1	0	1	22.4	22.6	22.8
			1	12	1	22.4	22.6	22.9
			1	24	1	22.5	22.6	22.7
			12	0	2	22.0	22.0	22.1
			12	7	2	22.0	22.0	22.1
			12	13	2	22.0	22.0	22.0
			25	0	2	22.0	22.1	22.0

9. RADIATED TEST RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, and § 90.635.

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

TEST RESULTS

9.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC1	1xRTT	25	1851.25	22.01	158.85
		600	1880	22.34	171.4
		1175	1908.75	21.3	134.9
	EVDO REL. 0	25	1851.25	21.6	144.54
		600	1880	22.17	164.82
		1175	1908.75	21.07	127.94

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC0	1xRTT	1013	824.7	22.671	184.97
		384	836.52	22.161	164.48
		777	848.31	22.731	187.54
	EVDO REL. 0	1013	824.7	21.681	147.27
		384	836.52	22.161	164.48
		777	848.31	21.811	151.74

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 2	REL99	9262	1852.4	21.72	148.59
		9400	1880	22.13	163.31
		9538	1907.6	22.9	194.98
	HSDPA	9262	1852.4	21.46	139.96
		9400	1880	21.89	154.53
		9538	1907.6	23.17	207.49

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 5	REL99	4132	826.4	17.841	60.83
		4183	836.6	19.621	91.64
		4233	846.6	19.871	97.07
	HSDPA	4132	826.4	18.021	63.4
		4183	836.6	19.681	92.92
		4233	846.6	19.881	97.3

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM1900	GPRS	512	1850.2	26.62	459.2
		661	1880	29.74	941.89
		810	1909.8	28.85	767.36
	EGPRS	512	1850.2	23.89	244.91
		661	1880	26.49	445.66
		810	1909.8	25.67	368.98

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	26.771	475.44
		190	836.6	27.491	561.18
		251	848.8	28.171	656.3
	EGPRS	128	824.2	24.251	266.13
		190	836.6	23.561	227.04
		251	848.8	23.881	244.4

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	17.55	56.89
		16QAM	1/0	782	17.39	54.83

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	20	QPSK	1/0	2510	18.59	72.28
			1/0	2535	18.25	66.83
			1/0	2560	18.82	76.21
		16QAM	1/0	2510	17.44	55.46
			1/0	2535	17.12	51.52
			1/0	2560	17.83	60.67

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	15	QPSK	1/0	2507.5	18.57	71.94
			1/0	2535	18.65	73.28
			1/0	2562.5	19.11	81.47
		16QAM	1/0	2507.5	17.86	61.09
			1/0	2535	17.26	53.21
			1/0	2562.5	17.97	62.66

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	10	QPSK	1/0	2505	18.77	75.34
			1/0	2535	18.94	78.34
			1/0	2565	19.31	85.31
		16QAM	1/0	2505	17.78	59.98
			1/0	2535	17.34	54.2
			1/0	2565	17.93	62.09

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE7	5	QPSK	1/0	2502.5	18.78	75.51
			1/0	2535	19.02	79.8
			1/0	2567.5	19.49	88.92
		16QAM	1/0	2502.5	17.63	57.94
			1/0	2535	17.84	60.81
			1/0	2567.5	18.2	66.07

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	22.91	195.43
			1/0	1732.5	23.31	214.29
			1/0	1745	23.32	214.78
		16QAM	1/0	1720	21.94	156.31
			1/0	1732.5	22.88	194.09
			1/0	1745	22.45	175.79

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	15	QPSK	1/0	1717.5	22.69	185.78
			1/0	1732.5	23.53	225.42
			1/0	1747.5	23.34	215.77
		16QAM	1/0	1717.5	21.79	151.01
			1/0	1732.5	22.85	192.75
			1/0	1747.5	22.39	173.38

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	10	QPSK	1/0	1715	22.33	171
			1/0	1732.5	23	199.53
			1/0	1750	22.85	192.75
		16QAM	1/0	1715	21.73	148.94
			1/0	1732.5	22.39	173.38
			1/0	1750	21.94	156.31

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	5	QPSK	1/0	1712.5	22.31	170.22
			1/0	1732.5	22.92	195.88
			1/0	1752.5	22.76	188.8
		16QAM	1/0	1712.5	21.46	139.96
			1/0	1732.5	22.09	161.81
			1/0	1752.5	21.71	148.25

9.1.3. ERP/EIRP DATA

Band

LTE13

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company:	LG
Project #:	14U17777
Date:	05/13/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE band 13, 10MHz, 16QAM

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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
782.000	8.92	V	0.9	0.0	8.02	34.8	-26.8	
782.000	18.29	H	0.9	0.0	17.39	34.8	-17.4	
Mid Ch								
NEW								

Rev. 3.17.11

Band

LTE13

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company:	LG
Project #:	14U17777
Date:	05/13/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE band 13, 10MHz, QPSK

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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
782.000	9.77	V	0.9	0.0	8.87	34.8	-25.9	
782.000	18.45	H	0.9	0.0	17.55	34.8	-17.2	
Mid Ch								
NEW								

Rev. 3.17.11

Band

LTE7

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 20MHz, 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2510.00	2.39	V	0.9	9.5	11.01	33.0	-22.0	
2510.00	8.82	H	0.9	9.5	17.44	33.0	-15.6	
Mid Ch								
2535.00	2.13	V	0.9	9.5	10.75	33.0	-22.3	
2535.00	8.50	H	0.9	9.5	17.12	33.0	-15.9	
High Ch								
2560.00	2.52	V	0.9	9.5	11.17	33.0	-21.8	
2560.00	9.18	H	0.9	9.5	17.83	33.0	-15.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 20MHz, QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2510.00	3.49	V	0.9	9.5	12.11	33.0	-20.9	
2510.00	9.97	H	0.9	9.5	18.59	33.0	-14.4	
Mid Ch								
2535.00	3.13	V	0.9	9.5	11.75	33.0	-21.3	
2535.00	9.63	H	0.9	9.5	18.25	33.0	-14.8	
High Ch								
2560.00	3.18	V	0.9	9.5	11.83	33.0	-21.2	
2560.00	10.17	H	0.9	9.5	18.82	33.0	-14.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 15MHz, 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2507.50	2.48	V	0.9	9.5	11.10	33.0	-21.9	
2507.50	9.24	H	0.9	9.5	17.86	33.0	-15.1	
Mid Ch								
2535.00	2.25	V	0.9	9.5	10.87	33.0	-22.1	
2535.00	8.64	H	0.9	9.5	17.26	33.0	-15.7	
High Ch								
2562.50	2.96	V	0.9	9.5	11.61	33.0	-21.4	
2562.50	9.32	H	0.9	9.5	17.97	33.0	-15.0	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 15MHz, QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2507.50	3.28	V	0.9	9.5	11.90	33.0	-21.1	
2507.50	9.95	H	0.9	9.5	18.57	33.0	-14.4	
Mid Ch								
2535.00	3.35	V	0.9	9.5	11.97	33.0	-21.0	
2535.00	10.03	H	0.9	9.5	18.65	33.0	-14.4	
High Ch								
2562.50	3.65	V	0.9	9.5	12.30	33.0	-20.7	
2562.50	10.46	H	0.9	9.5	19.11	33.0	-13.9	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 10MHz, 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2505.00	2.81	V	0.9	9.5	11.43	33.0	-21.6	
2505.00	9.16	H	0.9	9.5	17.78	33.0	-15.2	
Mid Ch								
2535.00	1.80	V	0.9	9.5	10.42	33.0	-22.6	
2535.00	8.72	H	0.9	9.5	17.34	33.0	-15.7	
High Ch								
2565.00	1.95	V	0.9	9.5	10.60	33.0	-22.4	
2565.00	9.28	H	0.9	9.5	17.93	33.0	-15.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band
LTE7
10MHz
QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 10MHz, QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2505.00	3.81	V	0.9	9.5	12.43	33.0	-20.6	
2505.00	10.15	H	0.9	9.5	18.77	33.0	-14.2	
Mid Ch								
2535.00	3.79	V	0.9	9.5	12.41	33.0	-20.6	
2535.00	10.32	H	0.9	9.5	18.94	33.0	-14.1	
High Ch								
2565.00	3.05	V	0.9	9.5	11.70	33.0	-21.3	
2565.00	10.66	H	0.9	9.5	19.31	33.0	-13.7	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 5MHz, 16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2502.50	2.61	V	0.9	9.5	11.23	33.0	-21.8	
2502.50	9.01	H	0.9	9.5	17.63	33.0	-15.4	
Mid Ch								
2535.00	2.44	V	0.9	9.5	11.06	33.0	-21.9	
2535.00	9.22	H	0.9	9.5	17.84	33.0	-15.2	
High Ch								
2567.50	3.12	V	0.9	9.5	11.77	33.0	-21.2	
2567.50	9.55	H	0.9	9.5	18.20	33.0	-14.8	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE7

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: Charles Vergonio
Configuration: EUT Only, Z position
Mode: TX, LTE band 7, 5MHz, QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2502.50	2.89	V	0.9	9.5	11.51	33.0	-21.5	
2502.50	10.16	H	0.9	9.5	18.78	33.0	-14.2	
Mid Ch								
2535.00	3.84	V	0.9	9.5	12.46	33.0	-20.5	
2535.00	10.40	H	0.9	9.5	19.02	33.0	-14.0	
High Ch								
2567.50	4.15	V	0.9	9.5	12.80	33.0	-20.2	
2567.50	10.84	H	0.9	9.5	19.49	33.0	-13.5	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE4

20MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_20MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.720	7.5	V	0.85	8.29	14.91	30.0	-15.1	
1.720	14.5	H	0.85	8.29	21.94	30.0	-8.1	
Mid Ch								
1.732	8.1	V	0.85	8.29	15.52	30.0	-14.5	
1.732	15.4	H	0.85	8.29	22.88	30.0	-7.1	
High Ch								
1.745	7.5	V	0.85	8.29	14.94	30.0	-15.1	
1.745	15.0	H	0.85	8.29	22.45	30.0	-7.6	

Rev. 3.17.11

Band

LTE4

20MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_20MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.720	8.8	V	0.85	8.29	16.22	30.0	-13.8	
1.720	15.5	H	0.85	8.29	22.91	30.0	-7.1	
Mid Ch								
1.732	9.2	V	0.85	8.29	16.68	30.0	-13.3	
1.732	15.9	H	0.85	8.29	23.31	30.0	-6.7	
High Ch								
1.745	8.5	V	0.85	8.29	15.96	30.0	-14.0	
1.745	15.9	H	0.85	8.29	23.32	30.0	-6.7	

Rev. 3.17.11

Band

LTE4

15MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_15MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.718	7.5	V	0.85	8.29	14.98	30.0	-15.0	
1.718	14.4	H	0.85	8.29	21.79	30.0	-8.2	
Mid Ch								
1.732	8.2	V	0.85	8.29	15.68	30.0	-14.3	
1.732	15.4	H	0.85	8.29	22.85	30.0	-7.2	
High Ch								
1.748	7.4	V	0.85	8.29	14.82	30.0	-15.2	
1.748	15.0	H	0.85	8.29	22.39	30.0	-7.6	

Rev. 3.17.11

Band

LTE4

15MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_15MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.718	8.9	V	0.85	8.29	16.34	30.0	-13.7	
1.718	15.3	H	0.85	8.29	22.69	30.0	-7.3	
Mid Ch								
1.732	8.9	V	0.85	8.29	16.37	30.0	-13.6	
1.732	16.1	H	0.85	8.29	23.53	30.0	-6.5	
High Ch								
1.748	8.8	V	0.85	8.29	16.24	30.0	-13.8	
1.748	15.9	H	0.85	8.29	23.34	30.0	-6.7	

Rev. 3.17.11

Band

LTE4

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company:	LG
Project #:	14U17777
Date:	5/12/124
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_10MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1.7150	8.51	V	0.9	8.3	15.95	30.0	-14.1	
1.7150	14.29	H	0.9	8.3	21.73	30.0	-8.3	
Mid Ch								
1.7325	8.51	V	0.9	8.2	15.86	30.0	-14.1	
1.7325	15.04	H	0.9	8.2	22.39	30.0	-7.6	
High Ch								
1.7500	7.32	V	0.9	8.2	14.67	30.0	-15.3	
1.7500	14.59	H	0.9	8.2	21.94	30.0	-8.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE4

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_10MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1.7150	8.88	V	0.9	8.3	16.32	30.0	-13.7	
1.7150	14.89	H	0.9	8.3	22.33	30.0	-7.7	
Mid Ch								
1.7325	9.88	V	0.9	8.2	17.23	30.0	-12.8	
1.7325	15.65	H	0.9	8.2	23.00	30.0	-7.0	
High Ch								
1.7500	8.41	V	0.9	8.2	15.76	30.0	-14.2	
1.7500	15.50	H	0.9	8.2	22.85	30.0	-7.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE4

5MHz

16QAM

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_5MHz_16QAM

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.713	7.1	V	0.85	8.29	14.57	30.0	-15.4	
1.713	14.0	H	0.85	8.29	21.46	30.0	-8.5	
Mid Ch								
1.733	7.6	V	0.85	8.29	15.06	30.0	-14.9	
1.733	14.7	H	0.85	8.29	22.09	30.0	-7.9	
High Ch								
1.753	6.4	V	0.85	7.92	13.47	30.0	-16.5	
1.753	14.6	H	0.85	7.92	21.71	30.0	-8.3	

Rev. 3.17.11

Band

LTE4

5MHz

QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company:	LG
Project #:	14U17777
Date:	05/12/14
Test Engineer:	Charles Vergonio
Configuration:	EUT only, X position
Mode:	LTE_B4_5MHz_QPSK

Test Equipment:
Receiving: Horn T119, and Chamber C SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.713	8.6	V	0.85	8.29	16.01	30.0	-14.0	
1.713	14.9	H	0.85	8.29	22.31	30.0	-7.7	
Mid Ch								
1.733	8.9	V	0.85	8.29	16.37	30.0	-13.6	
1.733	15.5	H	0.85	8.29	22.92	30.0	-7.1	
High Ch								
1.753	8.3	V	0.85	7.92	15.35	30.0	-14.7	
1.753	15.7	H	0.85	7.92	22.76	30.0	-7.2	

Rev. 3.17.11

Band

BC1

EVDO
REL. 0

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 5\13\14
Test Engineer: Charles Vergonio
Configuration: EUT, X Position
Mode: CDMA EVDOR0 BC1

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1851.25	5.22	V	0.5	7.9	12.64	33.0	-20.4	
1851.25	14.18	H	0.5	7.9	21.60	33.0	-11.4	
Mid Ch								
1880.00	6.57	V	0.5	7.9	13.99	33.0	-19.0	
1880.00	14.75	H	0.5	7.9	22.17	33.0	-10.8	
High Ch								
1908.75	5.29	V	0.5	7.9	12.64	33.0	-20.4	
1908.75	13.72	H	0.5	7.9	21.07	33.0	-11.9	

Rev. 3.17.11

Band

BC1

1xRTT

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 5\13\14
Test Engineer: Charles Vergonio
Configuration: EUT, X Position
Mode: CDMA RTT BC1

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1851.25	5.44	V	0.5	7.9	12.86	33.0	-20.1	
1851.25	14.59	H	0.5	7.9	22.01	33.0	-11.0	
Mid Ch								
1880.00	6.82	V	0.5	7.9	14.24	33.0	-18.8	
1880.00	14.92	H	0.5	7.9	22.34	33.0	-10.7	
High Ch								
1908.75	6.09	V	0.5	7.9	13.44	33.0	-19.6	
1908.75	13.95	H	0.5	7.9	21.30	33.0	-11.7	

Rev. 3.17.11

Band

BC0

EVDO

REL. 0

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 5\13\14
Test Enginee Charles Vergonio
Configuration EUT, X Position
Mode: CDMA EVDOR0 BC0

Test Equipment:
Receiving: Sunol T477, and 3m Chamber B N-type Cable
Substitution: Dipole S/N: 00022724, 2ft SMA Cable (SN # 8000701).

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	13.39	V	0.3	0.0	13.09	38.5	-25.4	
824.70	21.98	H	0.3	0.0	21.68	38.5	-16.8	
Mid Ch								
836.52	13.75	V	0.3	0.0	13.45	38.5	-25.0	
836.52	22.46	H	0.3	0.0	22.16	38.5	-16.3	
High Ch								
848.31	14.14	V	0.3	0.0	13.84	38.5	-24.6	
848.31	22.11	H	0.3	0.0	21.81	38.5	-16.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

BC0

1xRTT

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber B

Company: LG
Project #: 14U17777
Date: 5\13\14
Test Engineer: Charles Vergonio
Configuration: EUT, X Position
Mode: CDMA RTT BC0

Test Equipment:
Receiving: Sunol T477, and 3m Chamber B N-type Cable
Substitution: Dipole S/N: 00022724, 2ft SMA Cable (SN # 8000701).

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	14.41	V	0.3	0.0	14.11	38.5	-24.3	
824.70	22.97	H	0.3	0.0	22.67	38.5	-15.8	
Mid Ch								
836.52	13.83	V	0.3	0.0	13.53	38.5	-24.9	
836.52	22.46	H	0.3	0.0	22.16	38.5	-16.3	
High Ch								
848.31	15.23	V	0.3	0.0	14.93	38.5	-23.5	
848.31	23.03	H	0.3	0.0	22.73	38.5	-15.7	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

Band 2

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company:	LG
Project #:	14U17777
Date:	05/13/14
Test Engineer:	R. Alegre
Configuration:	EUT only, X position
Mode:	WCDMA_HSDPA_1900

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1852.40	6.38	V	0.85	7.9	13.38	33.0	-19.6	
1852.40	14.46	H	0.85	7.9	21.46	33.0	-11.5	
Mid Ch								
1880.00	7.38	V	0.85	7.9	14.38	33.0	-18.6	
1880.00	14.89	H	0.85	7.9	21.89	33.0	-11.1	
High Ch								
1907.60	7.39	V	0.85	7.9	14.39	33.0	-18.6	
1907.60	16.17	H	0.85	7.9	23.17	33.0	-9.8	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

Band 2

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: R. Alegre
Configuration: EUT only, X Position
Mode: WCDMA_Rel 99_1900

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1852.40	6.76	V	0.85	7.9	13.76	33.0	-19.2	
1852.40	14.72	H	0.85	7.9	21.72	33.0	-11.3	
Mid Ch								
1880.00	6.80	V	0.85	7.9	13.80	33.0	-19.2	
1880.00	15.13	H	0.85	7.9	22.13	33.0	-10.9	
High Ch								
1907.60	6.95	V	0.85	7.9	13.95	33.0	-19.1	
1907.60	15.90	H	0.85	7.9	22.90	33.0	-10.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

Band 5

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: R. Alegre
Configuration: EUT, Y Position
Mode: WCDMA_HSDPA_850

Test Equipment:
Receiving: Sunol T408, and 5m E Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	13.59	V	0.9	0.0	12.69	38.5	-25.8	
826.40	18.92	H	0.9	0.0	18.02	38.5	-20.4	
Mid Ch								
836.60	9.52	V	0.9	0.0	8.62	38.5	-29.8	
836.60	20.58	H	0.9	0.0	19.68	38.5	-18.8	
High Ch								
846.60	15.72	V	0.9	0.0	14.82	38.5	-23.6	
846.60	20.78	H	0.9	0.0	19.88	38.5	-18.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

Band 5

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: R. Alegre
Configuration: EUT, Y Position
Mode: WCDMA_REL99_850

Test Equipment:
Receiving: Sunol T408, and 5m E Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	7.99	V	0.9	0.0	7.09	38.5	-31.4	
826.40	18.74	H	0.9	0.0	17.84	38.5	-20.6	
Mid Ch								
836.60	9.08	V	0.9	0.0	8.18	38.5	-30.3	
836.60	20.52	H	0.9	0.0	19.62	38.5	-18.8	
High Ch								
846.60	9.48	V	0.9	0.0	8.58	38.5	-29.9	
846.60	20.77	H	0.9	0.0	19.87	38.5	-18.6	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

GSM1900

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber A

Company:	LG
Project #:	14U17777
Date:	05/13/14
Test Engineer:	R. Alegre
Configuration:	EUT only, X position
Mode:	EGPRS 1900MHz

Test Equipment:
Receiving: Horn T345, and Chamber A SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	11.35	V	0.85	7.9	18.35	33.0	-14.7	
1850.20	16.89	H	0.85	7.9	23.89	33.0	-9.1	
Mid Ch								
1880.00	12.64	V	0.85	7.9	19.64	33.0	-13.4	
1880.00	19.49	H	0.85	7.9	26.49	33.0	-6.5	
High Ch								
1909.80	14.75	V	0.85	7.9	21.75	33.0	-11.3	
1909.80	18.67	H	0.85	7.9	25.67	33.0	-7.3	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

GSM1900

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber A

Company:	LG
Project #:	14U17777
Date:	05/13/14
Test Engineer:	R. Alegre
Configuration:	EUT only, X position
Mode:	GPRS 1900MHz

Test Equipment:
Receiving: Horn T345, and Chamber A SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	12.60	V	0.85	7.9	19.60	33.0	-13.4	
1850.20	19.62	H	0.85	7.9	26.62	33.0	-6.4	
Mid Ch								
1880.00	15.49	V	0.85	7.9	22.49	33.0	-10.5	
1880.00	22.74	H	0.85	7.9	29.74	33.0	-3.3	
High Ch								
1909.80	17.03	V	0.85	7.9	24.03	33.0	-9.0	
1909.80	21.85	H	0.85	7.9	28.85	33.0	-4.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

GSM850

EGPRS

High Frequency Substitution Measurement
Compliance Certification Services Chamber A

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: R. Alegre
Configuration: EUT, Y Position
Mode: EGRPS 850MHz

Test Equipment:
Receiving: Sunol T477, and 5m A Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.20	19.34	V	0.9	0.0	18.44	38.5	-20.0	
824.20	25.15	H	0.9	0.0	24.25	38.5	-14.2	
Mid Ch								
836.60	21.12	V	0.9	0.0	20.22	38.5	-18.2	
836.60	24.46	H	0.9	0.0	23.56	38.5	-14.9	
High Ch								
848.80	21.56	V	0.9	0.0	20.66	38.5	-17.8	
848.80	24.78	H	0.9	0.0	23.88	38.5	-14.6	

Rev. 3.17.11

Band

GSM850

GPRS

High Frequency Substitution Measurement
Compliance Certification Services Chamber A

Company: LG
Project #: 14U17777
Date: 05/13/14
Test Engineer: R. Alegre
Configuration: EUT, Y Position
Mode: GRPS 850MHz

Test Equipment:
Receiving: Sunol T477, and 5m A Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.20	20.44	V	0.9	0.0	19.54	38.5	-18.9	
824.20	27.67	H	0.9	0.0	26.77	38.5	-11.7	
Mid Ch								
836.60	22.19	V	0.9	0.0	21.29	38.5	-17.2	
836.60	28.39	H	0.9	0.0	27.49	38.5	-11.0	
High Ch								
848.80	23.86	V	0.9	0.0	22.96	38.5	-15.5	
848.80	29.07	H	0.9	0.0	28.17	38.5	-10.3	

Rev. 3.17.11

SPOTS CHECK WITH WPC COVER AND CHARGER

Band

GSM850

GPRS

High Frequency Substitution Measurement
Compliance Certification Services Chamber E

Company: LG
Project #: 14U17777
Date: 05/21/14
Test Engineer: R. Alegre
Configuration: EUT with dummy battery, Y Position
Mode: GRPS 850MHz

Test Equipment:
Receiving: Sunol T408, and Chamber E N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
836.60	21.28	V	0.9	0.0	20.38	38.5	-18.1	
836.60	27.96	H	0.9	0.0	27.06	38.5	-11.4	
High Ch								

Rev. 3.17.11

Band

GSM1900

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company:	LG
Project #:	14U17777
Date:	05/21/14
Test Engineer:	R. Alegre
Configuration:	EUT with dummy battery, X position
Mode:	GPRS 1900MHz

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
1880.00	13.85	V	0.85	7.9	20.85	33.0	-12.2	
1880.00	22.07	H	0.85	7.9	29.07	33.0	-3.9	
High Ch								

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE 4
QPSK

High Frequency Fundamental Measurement
Compliance Certification Services Chamber E

Company:	LG
Project #:	14U17777
Date:	05/21/14
Test Engineer:	R. Alegre
Configuration:	EUT with dummy battery, X position
Mode:	LTE_B4_5MHz_QPSK

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
Mid Ch								
1.733	8.6	V	0.85	8.29	16.02	30.0	-14.0	
1.733	15.4	H	0.85	8.29	22.81	30.0	-7.2	
High Ch								

Rev. 3.17.11

Band

LTE 7

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/21/14
Test Engineer: R. Alegre
Configuration: EUT dummy battery, Z position
Mode: TX, LTE band 7, 5MHz, QPSK

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
2535.00	3.33	V	0.9	9.5	11.95	33.0	-21.1	
2535.00	10.18	H	0.9	9.5	18.80	33.0	-14.2	
High Ch								

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

LTE 13

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company:	LG
Project #:	14U17777
Date:	05/21/14
Test Engineer:	R. Alegre
Configuration:	EUT with dummy battery, X position
Mode:	LTE band 13, 10MHz, QPSK

Test Equipment:
Receiving: Sunol T408, and Chamber E Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
782.000	9.29	V	0.9	0.0	8.39	34.8	-26.4	
782.000	18.26	H	0.9	0.0	17.36	34.8	-17.4	
Mid Ch								
NEW								

Rev. 3.17.11

Band

B2

REL 99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/21/14
Test Engineer: R. Alegre
Configuration: EUT with dummy battery, X Position
Mode: WCDMA_Rel 99_1900

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
1880.00	6.71	V	0.85	7.9	13.71	33.0	-19.3	
1880.00	15.04	H	0.85	7.9	22.04	33.0	-11.0	
High Ch								
1907.60	6.89	V	0.85	7.9	13.89	33.0	-19.1	
1907.60	15.76	H	0.85	7.9	22.76	33.0	-10.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

Band

B5

REL 99

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company:	LG
Project #:	14U17777
Date:	05/21/14
Test Engineer:	R. Alegre
Configuration:	EUT with dummy battery, Y Position
Mode:	WCDMA_REL99_850

Test Equipment:
Receiving: Sunol T408, and 5m E Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (SN # 245200 001) Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
836.60	8.95	V	0.9	0.0	8.05	38.5	-30.4	
836.60	20.34	H	0.9	0.0	19.44	38.5	-19.0	
High Ch								
846.60	9.38	V	0.9	0.0	8.48	38.5	-30.0	
846.60	20.43	H	0.9	0.0	19.53	38.5	-18.9	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

B0

RTT

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/21/14
Test Engineer: R. Alegre
Configuration: EUT with dummy battery, X Position
Mode: CDMA RTT BC0

Test Equipment:
Receiving: Sunol T408, and Chamber E N-type Cable
Substitution: Dipole S/N: 00022724, 2ft SMA Cable (SN # 8000701).

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
836.52	13.71	V	0.9	0.0	12.81	38.5	-25.6	
836.52	22.23	H	0.9	0.0	21.33	38.5	-17.1	
High Ch								

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band

B1

RTT

High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber E

Company: LG
Project #: 14U17777
Date: 05/21/14
Test Engineer: R. Alegre
Configuration: EUT with dummy battery, X Position
Mode: CDMA RTT BC1

Test Equipment:
Receiving: Horn T346, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
Mid Ch								
1880.00	5.30	V	0.5	7.9	12.72	33.0	-20.3	
1880.00	14.65	H	0.5	7.9	22.07	33.0	-10.9	
High Ch								

Rev. 3.17.11

9.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238

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

RESULTS

9.2.1. SPURIOUS RADIATION DATA

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 13, 10MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE13										
	Mid Ch, (782 MHz)									
10MHz	1.564	-26.2	V	3.0	30.7	1.0	-55.9	-13.0	-42.9	
	2.346	-25.4	V	3.0	28.9	1.0	-53.3	-13.0	-40.3	
16QAM	3.128	-28.4	V	3.0	26.8	1.0	-54.2	-13.0	-41.2	
	1.564	-28.3	H	3.0	30.7	1.0	-58.0	-13.0	-45.0	
	2.346	-26.8	H	3.0	28.9	1.0	-54.6	-13.0	-41.6	
	3.128	-28.2	H	3.0	26.8	1.0	-54.0	-13.0	-41.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band
LTE13
10MHz
QPSK

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 13, 10MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, (782 MHz)									
1.564	-26.0	V	3.0	30.7	1.0	-55.6	-13.0	-42.6	
2.346	-25.6	V	3.0	28.9	1.0	-53.5	-13.0	-40.5	
3.128	-28.3	V	3.0	26.8	1.0	-54.1	-13.0	-41.1	
1.564	-28.7	H	3.0	30.7	1.0	-58.4	-13.0	-45.4	
2.346	-27.1	H	3.0	28.9	1.0	-54.9	-13.0	-41.9	
3.128	-28.0	H	3.0	26.8	1.0	-53.9	-13.0	-40.9	

Rev. 03.03.09

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/15/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 7, 20MHz, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 27

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (2510 MHz)									
LTE7	5.020	-29.4	V	3.0	28.9	1.0	-57.3	-25.0	-32.3	
	7.530	-28.9	V	3.0	26.3	1.0	-54.2	-25.0	-29.2	
20MHz	10.040	-27.3	V	3.0	23.1	1.0	-49.4	-25.0	-24.4	
	5.020	-23.1	H	3.0	28.9	1.0	-51.0	-25.0	-26.0	
16QAM	7.530	-27.6	H	3.0	26.3	1.0	-52.9	-25.0	-27.9	
	10.040	-25.4	H	3.0	23.1	1.0	-47.5	-25.0	-22.5	
	Mid Ch, (2535MHz)									
	5.070	-21.7	V	3.0	28.8	1.0	-49.6	-25.0	-24.6	
	7.650	-26.9	V	3.0	26.2	1.0	-52.0	-25.0	-27.0	
	10.140	-25.8	V	3.0	23.1	1.0	-47.9	-25.0	-22.9	
	5.070	-20.4	H	3.0	28.8	1.0	-48.3	-25.0	-23.3	
	7.650	-27.8	H	3.0	26.2	1.0	-53.0	-25.0	-28.0	
	10.140	-25.4	H	3.0	23.1	1.0	-47.5	-25.0	-22.5	
	High Ch, (2560 MHz)									
	5.120	-22.8	V	3.0	28.8	1.0	-50.6	-25.0	-25.6	
	7.680	-27.4	V	3.0	26.1	1.0	-52.6	-25.0	-27.6	
	10.240	-26.5	V	3.0	23.0	1.0	-48.5	-25.0	-23.5	
	5.120	-23.3	H	3.0	28.8	1.0	-51.0	-25.0	-26.0	
	7.680	-26.6	H	3.0	26.1	1.0	-51.7	-25.0	-26.7	
	10.240	-25.1	H	3.0	23.0	1.0	-47.2	-25.0	-22.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/15/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 7, 20MHz, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 27

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (2510 MHz)									
LTE7	5.020	-28.4	V	3.0	28.9	1.0	-56.3	-25.0	-31.3	
	7.530	-28.5	V	3.0	26.3	1.0	-53.8	-25.0	-28.8	
20MHz	10.040	-27.5	V	3.0	23.1	1.0	-49.6	-25.0	-24.6	
	5.020	-23.8	H	3.0	28.9	1.0	-51.7	-25.0	-26.7	
QPSK	7.530	-27.9	H	3.0	26.3	1.0	-53.2	-25.0	-28.2	
	10.040	-25.3	H	3.0	23.1	1.0	-47.4	-25.0	-22.4	
	Mid Ch, (2535MHz)									
	5.070	-22.0	V	3.0	28.8	1.0	-49.9	-25.0	-24.9	
	7.650	-27.2	V	3.0	26.2	1.0	-52.4	-25.0	-27.4	
	10.140	-25.6	V	3.0	23.1	1.0	-47.7	-25.0	-22.7	
	5.070	-20.7	H	3.0	28.8	1.0	-48.6	-25.0	-23.6	
	7.650	-27.5	H	3.0	26.2	1.0	-52.6	-25.0	-27.6	
	10.140	-25.6	H	3.0	23.1	1.0	-47.6	-25.0	-22.6	
	High Ch, (2560 MHz)									
	5.120	-23.9	V	3.0	28.8	1.0	-51.7	-25.0	-26.7	
	7.680	-28.6	V	3.0	26.1	1.0	-53.7	-25.0	-28.7	
	10.240	-26.7	V	3.0	23.0	1.0	-48.7	-25.0	-23.7	
	5.120	-22.6	H	3.0	28.8	1.0	-50.4	-25.0	-25.4	
	7.680	-26.8	H	3.0	26.1	1.0	-51.9	-25.0	-26.9	
	10.240	-26.1	H	3.0	23.0	1.0	-48.1	-25.0	-23.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/15/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 7, 15MHz, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 27

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE7	Low Ch, (2507.5 MHz)									
15MHz	5.014	-28.4	V	3.0	28.9	1.0	-56.3	-25.0	-31.3	
	7.521	-28.6	V	3.0	26.3	1.0	-54.0	-25.0	-29.0	
16QAM	10.028	-27.7	V	3.0	23.1	1.0	-49.8	-25.0	-24.8	
	5.014	-24.5	H	3.0	28.9	1.0	-52.4	-25.0	-27.4	
	7.521	-27.4	H	3.0	26.3	1.0	-52.7	-25.0	-27.7	
	10.028	-25.6	H	3.0	23.1	1.0	-47.7	-25.0	-22.7	
	Mid Ch, (2535 MHz)									
	5.070	-24.2	V	3.0	28.8	1.0	-52.0	-25.0	-27.0	
	7.605	-27.7	V	3.0	26.2	1.0	-52.9	-25.0	-27.9	
	10.140	-26.4	V	3.0	23.1	1.0	-48.5	-25.0	-23.5	
	5.070	-24.5	H	3.0	28.8	1.0	-52.4	-25.0	-27.4	
	7.605	-27.0	H	3.0	26.2	1.0	-52.2	-25.0	-27.2	
	10.140	-25.7	H	3.0	23.1	1.0	-47.7	-25.0	-22.7	
	High Ch, (2562.5 MHz)									
	5.124	-23.7	V	3.0	28.8	1.0	-51.5	-25.0	-26.5	
	7.686	-28.4	V	3.0	26.1	1.0	-53.5	-25.0	-28.5	
	10.248	-26.8	V	3.0	23.0	1.0	-48.8	-25.0	-23.8	
	5.124	-23.6	H	3.0	28.8	1.0	-51.3	-25.0	-26.3	
	7.686	-27.2	H	3.0	26.1	1.0	-52.3	-25.0	-27.3	
	10.248	-25.7	H	3.0	23.0	1.0	-47.7	-25.0	-22.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/15/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 7, 15MHz, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 27

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (2507 MHz)									
LTE7	5.015	-28.3	V	3.0	28.9	1.0	-56.1	-25.0	-31.1	
	7.522	-28.4	V	3.0	26.3	1.0	-53.7	-25.0	-28.7	
15MHz	10.030	-27.5	V	3.0	23.1	1.0	-49.5	-25.0	-24.5	
	5.015	-24.4	H	3.0	28.9	1.0	-52.2	-25.0	-27.2	
QPSK	7.522	-27.5	H	3.0	26.3	1.0	-52.8	-25.0	-27.8	
	10.030	-25.8	H	3.0	23.1	1.0	-47.9	-25.0	-22.9	
	Mid Ch, (2535 MHz)									
	5.070	-21.4	V	3.0	28.8	1.0	-49.3	-25.0	-24.3	
	7.605	-27.0	V	3.0	26.2	1.0	-52.3	-25.0	-27.3	
	10.140	-26.3	V	3.0	23.1	1.0	-48.4	-25.0	-23.4	
	5.070	-20.3	H	3.0	28.8	1.0	-48.2	-25.0	-23.2	
	7.605	-27.3	H	3.0	26.2	1.0	-52.5	-25.0	-27.5	
	10.140	-26.1	H	3.0	23.1	1.0	-48.2	-25.0	-23.2	
	High Ch, (2562.5 MHz)									
	5.125	-23.6	V	3.0	28.8	1.0	-51.3	-25.0	-26.3	
	7.687	-28.5	V	3.0	26.1	1.0	-53.6	-25.0	-28.6	
	10.250	-26.9	V	3.0	23.0	1.0	-48.9	-25.0	-23.9	
	5.125	-23.6	H	3.0	28.8	1.0	-51.4	-25.0	-26.4	
	7.687	-27.0	H	3.0	26.1	1.0	-52.1	-25.0	-27.1	
	10.250	-25.6	H	3.0	23.0	1.0	-47.6	-25.0	-22.6	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	14U17777
Date:	05/15/14
Test Engineer:	R. Alegre
Configuration:	EUT with AC charger
Mode:	TX, LTE BAND 7, 10MHz BW,16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	FCC Part 27

Band: LTE7 10MHz 16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (2505MHz)									
5.010	-9.1	V	3.0	34.8	1.0	-42.9	-25.0	-17.9	
7.515	-14.6	V	3.0	34.9	1.0	-48.5	-25.0	-23.5	
10.020	-13.1	V	3.0	35.4	1.0	-47.4	-25.0	-22.4	
5.010	-7.5	H	3.0	34.8	1.0	-41.2	-25.0	-16.2	
7.515	-15.1	H	3.0	34.9	1.0	-49.1	-25.0	-24.1	
10.020	-12.1	H	3.0	35.4	1.0	-46.4	-25.0	-21.4	
Mid Channel (2535MHz)									
5.070	-10.4	V	3.0	34.7	1.0	-44.1	-25.0	-19.1	
7.605	-14.2	V	3.0	34.9	1.0	-48.2	-25.0	-23.2	
10.122	-11.9	V	3.0	35.3	1.0	-46.2	-25.0	-21.2	
5.070	-5.8	H	3.0	34.7	1.0	-39.6	-25.0	-14.6	
7.605	-14.2	H	3.0	34.9	1.0	-48.1	-25.0	-23.1	
10.122	-11.5	H	3.0	35.3	1.0	-45.8	-25.0	-20.8	
High Channel (2565MHz)									
5.130	-6.7	V	3.0	34.7	1.0	-40.4	-25.0	-15.4	
7.689	-14.7	V	3.0	35.0	1.0	-48.6	-25.0	-23.6	
10.260	-12.3	V	3.0	35.2	1.0	-46.5	-25.0	-21.5	
5.130	-5.1	H	3.0	34.7	1.0	-38.8	-25.0	-13.8	
7.689	-13.3	H	3.0	35.0	1.0	-47.3	-25.0	-22.3	
10.260	-11.5	H	3.0	35.2	1.0	-45.7	-25.0	-20.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band

LTE7

10MHz

QPSK

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	14U17777
Date:	05/15/14
Test Engineer:	R. Alegre
Configuration:	EUT with AC charger
Mode:	TX, LTE BAND 7, 10MHz BW,QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	FCC Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (2505MHz)									
5.010	-9.0	V	3.0	34.8	1.0	-42.7	-25.0	-17.7	
7.515	-14.9	V	3.0	34.9	1.0	-48.8	-25.0	-23.8	
10.020	-13.2	V	3.0	35.4	1.0	-47.6	-25.0	-22.6	
5.010	-8.1	H	3.0	34.8	1.0	-41.8	-25.0	-16.8	
7.515	-15.1	H	3.0	34.9	1.0	-49.0	-25.0	-24.0	
10.020	-11.9	H	3.0	35.4	1.0	-46.3	-25.0	-21.3	
Mid Channel (2535MHz)									
5.070	-10.4	V	3.0	34.7	1.0	-44.2	-25.0	-19.2	
7.605	-14.4	V	3.0	34.9	1.0	-48.4	-25.0	-23.4	
10.140	-11.7	V	3.0	35.3	1.0	-46.0	-25.0	-21.0	
5.070	-5.7	H	3.0	34.7	1.0	-39.4	-25.0	-14.4	
7.605	-14.2	H	3.0	34.9	1.0	-48.1	-25.0	-23.1	
10.140	-11.6	H	3.0	35.3	1.0	-45.9	-25.0	-20.9	
High Channel (2565MHz)									
5.130	-7.4	V	3.0	34.7	1.0	-41.1	-25.0	-16.1	
7.689	-14.4	V	3.0	35.0	1.0	-48.4	-25.0	-23.4	
10.260	-12.4	V	3.0	35.2	1.0	-46.6	-25.0	-21.6	
5.130	-6.4	H	3.0	34.7	1.0	-40.1	-25.0	-15.1	
7.689	-13.2	H	3.0	35.0	1.0	-47.1	-25.0	-22.1	
10.260	-11.3	H	3.0	35.2	1.0	-45.5	-25.0	-20.5	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	14U17777
Date:	05/15/14
Test Engineer:	R. Alegre
Configuration:	EUT with AC charger
Mode:	LTE7 / 5MHz BW / QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	FCC Part 22

Band: LTE7, 5MHz, 16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (2502.5MHz)									
5.005	-10.3	V	3.0	35.3	1.0	-44.6	-13.0	-31.6	
7.508	-15.2	V	3.0	35.7	1.0	-49.9	-13.0	-36.9	
10.010	-13.5	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
5.005	-8.7	H	3.0	35.3	1.0	-43.0	-13.0	-30.0	
7.508	-14.5	H	3.0	35.7	1.0	-49.2	-13.0	-36.2	
10.010	-11.4	H	3.0	35.5	1.0	-45.9	-13.0	-32.9	
Mid Channel (2535MHz)									
5.007	-7.6	V	3.0	35.3	1.0	-41.9	-13.0	-28.9	
7.605	-14.5	V	3.0	35.7	1.0	-49.2	-13.0	-36.2	
10.140	-11.4	V	3.0	35.4	1.0	-45.9	-13.0	-32.9	
5.007	-5.6	H	3.0	35.3	1.0	-39.9	-13.0	-26.9	
7.605	-14.3	H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
10.140	-11.5	H	3.0	35.4	1.0	-45.9	-13.0	-32.9	
High Channel (2567.5MHz)									
5.135	-6.7	V	3.0	35.3	1.0	-41.0	-13.0	-28.0	
7.703	-15.1	V	3.0	35.7	1.0	-49.8	-13.0	-36.8	
10.270	-12.2	V	3.0	35.3	1.0	-46.5	-13.0	-33.5	
5.135	-6.4	H	3.0	35.3	1.0	-40.8	-13.0	-27.8	
7.703	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
10.270	-11.7	H	3.0	35.3	1.0	-46.1	-13.0	-33.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band

LTE7

5MHz

QPSK

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	14U17777
Date:	05/15/14
Test Engineer:	R. Alegre
Configuration:	EUT with AC charger
Mode:	LTE7 / 5MHz BW / QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	FCC Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (2502.5MHz)									
5.005	-10.1	V	3.0	35.3	1.0	-44.4	-25.0	-19.4	
7.508	-15.1	V	3.0	35.7	1.0	-49.8	-25.0	-24.8	
10.010	-12.9	V	3.0	35.5	1.0	-47.4	-25.0	-22.4	
5.005	-8.4	H	3.0	35.3	1.0	-42.7	-25.0	-17.7	
7.508	-14.1	H	3.0	35.7	1.0	-48.8	-25.0	-23.8	
10.010	-12.2	H	3.0	35.5	1.0	-46.7	-25.0	-21.7	
Mid Channel (2535MHz)									
5.007	-7.0	V	3.0	35.3	1.0	-41.3	-25.0	-16.3	
7.605	-14.4	V	3.0	35.7	1.0	-49.1	-25.0	-24.1	
10.140	-11.8	V	3.0	35.4	1.0	-46.3	-25.0	-21.3	
5.007	-6.2	H	3.0	35.3	1.0	-40.5	-25.0	-15.5	
7.605	-13.9	H	3.0	35.7	1.0	-48.6	-25.0	-23.6	
10.140	-11.8	H	3.0	35.4	1.0	-46.2	-25.0	-21.2	
High Channel (2567.5MHz)									
5.135	-7.2	V	3.0	35.3	1.0	-41.5	-25.0	-16.5	
7.703	-15.6	V	3.0	35.7	1.0	-50.3	-25.0	-25.3	
10.270	-11.8	V	3.0	35.3	1.0	-46.1	-25.0	-21.1	
5.135	-6.6	H	3.0	35.3	1.0	-40.9	-25.0	-15.9	
7.703	-13.7	H	3.0	35.7	1.0	-48.4	-25.0	-23.4	
10.270	-11.5	H	3.0	35.3	1.0	-45.9	-25.0	-20.9	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 20MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	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)									
LTE4	3.440	-28.9	V	3.0	30.4	1.0	-58.3	-13.0	-45.3	
	5.160	-30.4	V	3.0	28.7	1.0	-58.1	-13.0	-45.1	
20MHz	6.880	-28.4	V	3.0	27.1	1.0	-54.5	-13.0	-41.5	
	3.440	-29.0	H	3.0	30.4	1.0	-58.4	-13.0	-45.4	
16QAM	5.160	-28.5	H	3.0	28.7	1.0	-56.2	-13.0	-43.2	
	6.880	-28.3	H	3.0	27.1	1.0	-54.4	-13.0	-41.4	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.5	V	3.0	30.4	1.0	-57.9	-13.0	-44.9	
	5.198	-31.0	V	3.0	28.7	1.0	-58.7	-13.0	-45.7	
	6.930	-29.0	V	3.0	27.1	1.0	-55.1	-13.0	-42.1	
	3.465	-28.5	H	3.0	30.4	1.0	-57.9	-13.0	-44.9	
	5.198	-28.5	H	3.0	28.7	1.0	-56.2	-13.0	-43.2	
	6.930	-27.9	H	3.0	27.1	1.0	-53.9	-13.0	-40.9	
	High Ch, (1745 MHz)									
	3.490	-28.4	V	3.0	30.4	1.0	-57.8	-13.0	-44.8	
	5.235	-30.1	V	3.0	28.7	1.0	-57.8	-13.0	-44.8	
	6.980	-27.3	V	3.0	27.0	1.0	-53.4	-13.0	-40.4	
	3.490	-28.8	H	3.0	30.4	1.0	-58.2	-13.0	-45.2	
	5.235	-29.7	H	3.0	28.7	1.0	-57.4	-13.0	-44.4	
	6.980	-27.3	H	3.0	27.0	1.0	-53.3	-13.0	-40.3	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 20MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band: LTE4 20MHz 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, (1720 MHz)									
3.440	-28.2	V	3.0	30.4	1.0	-57.7	-13.0	-44.7	
5.160	-29.8	V	3.0	28.7	1.0	-57.6	-13.0	-44.6	
6.880	-28.3	V	3.0	27.1	1.0	-54.4	-13.0	-41.4	
3.440	-28.6	H	3.0	30.4	1.0	-58.0	-13.0	-45.0	
5.160	-28.4	H	3.0	28.7	1.0	-56.1	-13.0	-43.1	
6.880	-28.0	H	3.0	27.1	1.0	-54.1	-13.0	-41.1	
Mid Ch, (1732.5 MHz)									
3.465	-28.5	V	3.0	30.4	1.0	-57.9	-13.0	-44.9	
5.198	-30.0	V	3.0	28.7	1.0	-57.7	-13.0	-44.7	
6.930	-29.3	V	3.0	27.1	1.0	-55.4	-13.0	-42.4	
3.465	-29.0	H	3.0	30.4	1.0	-58.4	-13.0	-45.4	
5.198	-29.5	H	3.0	28.7	1.0	-57.2	-13.0	-44.2	
6.930	-28.6	H	3.0	27.1	1.0	-54.6	-13.0	-41.6	
High Ch, (1745 MHz)									
3.490	-28.7	V	3.0	30.4	1.0	-58.1	-13.0	-45.1	
5.235	-30.2	V	3.0	28.7	1.0	-57.9	-13.0	-44.9	
6.980	-27.2	V	3.0	27.0	1.0	-53.3	-13.0	-40.3	
3.490	-29.3	H	3.0	30.4	1.0	-58.6	-13.0	-45.6	
5.235	-29.2	H	3.0	28.7	1.0	-56.9	-13.0	-43.9	
6.980	-27.3	H	3.0	27.0	1.0	-53.3	-13.0	-40.3	

Rev. 03.03.09

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 15MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1717.5 MHz)									
LTE4	3.435	-28.1	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.153	-30.0	V	3.0	28.7	1.0	-57.8	-13.0	-44.8	
15MHz	6.870	-28.5	V	3.0	27.1	1.0	-54.6	-13.0	-41.6	
	3.435	-28.4	H	3.0	30.4	1.0	-57.8	-13.0	-44.8	
16QAM	5.153	-29.1	H	3.0	28.7	1.0	-56.9	-13.0	-43.9	
	6.870	-27.7	H	3.0	27.1	1.0	-53.8	-13.0	-40.8	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.2	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.198	-31.2	V	3.0	28.7	1.0	-58.9	-13.0	-45.9	
	6.930	-28.6	V	3.0	27.1	1.0	-54.6	-13.0	-41.6	
	3.465	-28.8	H	3.0	30.4	1.0	-58.2	-13.0	-45.2	
	5.198	-29.4	H	3.0	28.7	1.0	-57.1	-13.0	-44.1	
	6.930	-27.9	H	3.0	27.1	1.0	-54.0	-13.0	-41.0	
	High Ch, (1747.5 MHz)									
	3.495	-28.3	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.243	-30.8	V	3.0	28.7	1.0	-58.5	-13.0	-45.5	
	6.990	-27.8	V	3.0	27.0	1.0	-53.8	-13.0	-40.8	
	3.495	-28.9	H	3.0	30.4	1.0	-58.3	-13.0	-45.3	
	5.243	-28.9	H	3.0	28.7	1.0	-56.6	-13.0	-43.6	
	6.990	-28.4	H	3.0	27.0	1.0	-54.4	-13.0	-41.4	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 15MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1717.5 MHz)									
LTE4	3.435	-28.1	V	3.0	30.4	1.0	-57.5	-13.0	-44.5	
	5.153	-31.4	V	3.0	28.7	1.0	-59.1	-13.0	-46.1	
15MHz	6.870	-28.0	V	3.0	27.1	1.0	-54.1	-13.0	-41.1	
	3.435	-28.2	H	3.0	30.4	1.0	-57.6	-13.0	-44.6	
QPSK	5.153	-28.8	H	3.0	28.7	1.0	-56.6	-13.0	-43.6	
	6.870	-27.6	H	3.0	27.1	1.0	-53.7	-13.0	-40.7	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.1	V	3.0	30.4	1.0	-57.5	-13.0	-44.5	
	5.198	-31.0	V	3.0	28.7	1.0	-58.7	-13.0	-45.7	
	6.930	-28.8	V	3.0	27.1	1.0	-54.8	-13.0	-41.8	
	3.465	-28.9	H	3.0	30.4	1.0	-58.3	-13.0	-45.3	
	5.198	-29.4	H	3.0	28.7	1.0	-57.1	-13.0	-44.1	
	6.930	-27.9	H	3.0	27.1	1.0	-54.0	-13.0	-41.0	
	High Ch, (1747.5 MHz)									
	3.495	-28.0	V	3.0	30.4	1.0	-57.3	-13.0	-44.3	
	5.243	-30.7	V	3.0	28.7	1.0	-58.4	-13.0	-45.4	
	6.990	-27.7	V	3.0	27.0	1.0	-53.7	-13.0	-40.7	
	3.495	-28.6	H	3.0	30.4	1.0	-57.9	-13.0	-44.9	
	5.243	-28.7	H	3.0	28.7	1.0	-56.3	-13.0	-43.3	
	6.990	-28.0	H	3.0	27.0	1.0	-54.0	-13.0	-41.0	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 10MHz BW, 16QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1715 MHz)									
LTE4	3.430	-28.3	V	3.0	30.4	1.0	-57.7	-13.0	-44.7	
	5.145	-30.1	V	3.0	28.8	1.0	-57.9	-13.0	-44.9	
10MHz	6.860	-28.8	V	3.0	27.1	1.0	-54.9	-13.0	-41.9	
	3.430	-29.1	H	3.0	30.4	1.0	-58.5	-13.0	-45.5	
16QAM	5.145	-28.9	H	3.0	28.8	1.0	-56.6	-13.0	-43.6	
	6.860	-27.2	H	3.0	27.1	1.0	-53.4	-13.0	-40.4	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.4	V	3.0	30.4	1.0	-57.8	-13.0	-44.8	
	5.198	-31.2	V	3.0	28.7	1.0	-58.9	-13.0	-45.9	
	6.930	-29.4	V	3.0	27.1	1.0	-55.4	-13.0	-42.4	
	3.465	-27.5	H	3.0	30.4	1.0	-56.9	-13.0	-43.9	
	5.198	-29.7	H	3.0	28.7	1.0	-57.4	-13.0	-44.4	
	6.930	-28.6	H	3.0	27.1	1.0	-54.6	-13.0	-41.6	
	High Ch, (1750 MHz)									
	3.500	-28.2	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.250	-30.8	V	3.0	28.7	1.0	-58.4	-13.0	-45.4	
	7.000	-29.0	V	3.0	27.0	1.0	-55.0	-13.0	-42.0	
	3.500	-28.4	H	3.0	30.4	1.0	-57.8	-13.0	-44.8	
	5.250	-28.8	H	3.0	28.7	1.0	-56.4	-13.0	-43.4	
	7.000	-27.8	H	3.0	27.0	1.0	-53.8	-13.0	-40.8	

Rev. 03.03.09

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 10MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1715 MHz)									
LTE4	3.430	-28.1	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.145	-30.4	V	3.0	28.8	1.0	-58.1	-13.0	-45.1	
10MHz	6.860	-28.8	V	3.0	27.1	1.0	-54.9	-13.0	-41.9	
	3.430	-28.6	H	3.0	30.4	1.0	-58.0	-13.0	-45.0	
QPSK	5.145	-28.8	H	3.0	28.8	1.0	-56.6	-13.0	-43.6	
	6.860	-27.6	H	3.0	27.1	1.0	-53.7	-13.0	-40.7	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.5	V	3.0	30.4	1.0	-57.9	-13.0	-44.9	
	5.198	-30.6	V	3.0	28.7	1.0	-58.3	-13.0	-45.3	
	6.930	-28.9	V	3.0	27.1	1.0	-55.0	-13.0	-42.0	
	3.465	-28.2	H	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.198	-29.3	H	3.0	28.7	1.0	-57.0	-13.0	-44.0	
	6.930	-28.3	H	3.0	27.1	1.0	-54.3	-13.0	-41.3	
	High Ch, (1750 MHz)									
	3.500	-28.6	V	3.0	30.4	1.0	-58.0	-13.0	-45.0	
	5.250	-30.8	V	3.0	28.7	1.0	-58.5	-13.0	-45.5	
	7.000	-28.9	V	3.0	27.0	1.0	-54.9	-13.0	-41.9	
	3.500	-28.9	H	3.0	30.4	1.0	-58.3	-13.0	-45.3	
	5.250	-28.8	H	3.0	28.7	1.0	-56.5	-13.0	-43.5	
	7.000	-27.6	H	3.0	27.0	1.0	-53.6	-13.0	-40.6	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 5MHz BW, 16 QAM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1712.5 MHz)									
LTE4	3.425	-28.2	V	3.0	30.4	1.0	-57.7	-13.0	-44.7	
	5.138	-30.3	V	3.0	28.8	1.0	-58.0	-13.0	-45.0	
5MHz	6.850	-29.1	V	3.0	27.1	1.0	-55.2	-13.0	-42.2	
	3.425	-28.9	H	3.0	30.4	1.0	-58.4	-13.0	-45.4	
16QAM	5.138	-29.4	H	3.0	28.8	1.0	-57.2	-13.0	-44.2	
	6.850	-27.8	H	3.0	27.1	1.0	-53.9	-13.0	-40.9	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.2	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.198	-30.9	V	3.0	28.7	1.0	-58.6	-13.0	-45.6	
	6.930	-27.9	V	3.0	27.1	1.0	-54.0	-13.0	-41.0	
	3.465	-28.1	H	3.0	30.4	1.0	-57.5	-13.0	-44.5	
	5.198	-28.1	H	3.0	28.7	1.0	-55.8	-13.0	-42.8	
	6.930	-27.9	H	3.0	27.1	1.0	-53.9	-13.0	-40.9	
	High Ch, (1752.5 MHz)									
	3.505	-27.2	V	3.0	30.4	1.0	-56.5	-13.0	-43.5	
	5.258	-32.3	V	3.0	28.6	1.0	-60.0	-13.0	-47.0	
	7.010	-27.8	V	3.0	27.0	1.0	-53.8	-13.0	-40.8	
	3.505	-28.1	H	3.0	30.4	1.0	-57.5	-13.0	-44.5	
	5.258	-30.5	H	3.0	28.6	1.0	-58.2	-13.0	-45.2	
	7.010	-27.9	H	3.0	27.0	1.0	-53.9	-13.0	-40.9	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: TX, LTE band 4, 5MHz BW, QPSK

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T145 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, (1712.5 MHz)									
LTE4	3.425	-28.2	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.138	-30.4	V	3.0	28.8	1.0	-58.1	-13.0	-45.1	
5MHz	6.850	-29.3	V	3.0	27.1	1.0	-55.4	-13.0	-42.4	
	3.425	-28.6	H	3.0	30.4	1.0	-58.0	-13.0	-45.0	
QPSK	5.138	-29.0	H	3.0	28.8	1.0	-56.8	-13.0	-43.8	
	6.850	-27.4	H	3.0	27.1	1.0	-53.5	-13.0	-40.5	
	Mid Ch, (1732.5 MHz)									
	3.465	-28.2	V	3.0	30.4	1.0	-57.6	-13.0	-44.6	
	5.198	-31.2	V	3.0	28.7	1.0	-58.9	-13.0	-45.9	
	6.930	-28.6	V	3.0	27.1	1.0	-54.7	-13.0	-41.7	
	3.465	-28.0	H	3.0	30.4	1.0	-57.4	-13.0	-44.4	
	5.198	-28.4	H	3.0	28.7	1.0	-56.1	-13.0	-43.1	
	6.930	-28.0	H	3.0	27.1	1.0	-54.1	-13.0	-41.1	
	High Ch, (1752.5 MHz)									
	3.505	-27.1	V	3.0	30.4	1.0	-56.5	-13.0	-43.5	
	5.258	-31.5	V	3.0	28.6	1.0	-59.2	-13.0	-46.2	
	7.010	-28.3	V	3.0	27.0	1.0	-54.3	-13.0	-41.3	
	3.505	-28.1	H	3.0	30.4	1.0	-57.5	-13.0	-44.5	
	5.258	-30.0	H	3.0	28.6	1.0	-57.6	-13.0	-44.6	
	7.010	-27.7	H	3.0	27.0	1.0	-53.7	-13.0	-40.7	

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Band

BC1

EVDO
REL. 0

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/16/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: EVDO BC1 HARM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T343 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25MHz									
3.703	-11.4	V	3.0	35.4	1.0	-45.8	-13.0	-32.8	
5.554	-16.3	V	3.0	34.7	1.0	-50.1	-13.0	-37.1	
7.405	-14.7	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
3.703	-10.9	H	3.0	35.4	1.0	-45.3	-13.0	-32.3	
5.554	-15.7	H	3.0	34.7	1.0	-49.4	-13.0	-36.4	
7.405	-13.3	H	3.0	34.9	1.0	-47.2	-13.0	-34.2	
Mid Ch, 1880.0MHz									
3.760	-11.9	V	3.0	35.3	1.0	-46.3	-13.0	-33.3	
5.640	-16.0	V	3.0	34.7	1.0	-49.7	-13.0	-36.7	
7.520	-14.9	V	3.0	34.9	1.0	-48.8	-13.0	-35.8	
3.760	-11.7	H	3.0	35.3	1.0	-46.0	-13.0	-33.0	
5.640	-13.6	H	3.0	34.7	1.0	-47.3	-13.0	-34.3	
7.520	-10.8	H	3.0	34.9	1.0	-44.8	-13.0	-31.8	
High Ch, 1908.75 MHz									
3.818	-19.4	V	3.0	35.3	1.0	-53.7	-13.0	-40.7	
5.726	-16.1	V	3.0	34.7	1.0	-49.9	-13.0	-36.9	
7.635	-7.8	V	3.0	34.9	1.0	-41.8	-13.0	-28.8	
3.818	-19.8	H	3.0	35.3	1.0	-54.1	-13.0	-41.1	
5.726	-14.9	H	3.0	34.7	1.0	-48.6	-13.0	-35.6	
7.635	-14.1	H	3.0	34.9	1.0	-48.1	-13.0	-35.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/16/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: CDMA RTT BC1

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

Band BC1 1xRTT

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25 MHz									
3.703	-10.3	V	3.0	35.4	1.0	-44.7	-13.0	-31.7	
5.554	-15.9	V	3.0	34.7	1.0	-49.6	-13.0	-36.6	
7.405	-14.5	V	3.0	34.9	1.0	-48.4	-13.0	-35.4	
3.703	-10.1	H	3.0	35.4	1.0	-44.5	-13.0	-31.5	
5.554	-15.5	H	3.0	34.7	1.0	-49.2	-13.0	-36.2	
7.405	-13.4	H	3.0	34.9	1.0	-47.3	-13.0	-34.3	
Mid Ch, 1880 MHz									
3.760	-11.8	V	3.0	35.3	1.0	-46.2	-13.0	-33.2	
5.640	-16.1	V	3.0	34.7	1.0	-49.8	-13.0	-36.8	
7.520	-14.7	V	3.0	34.9	1.0	-48.6	-13.0	-35.6	
3.760	-11.2	H	3.0	35.3	1.0	-45.6	-13.0	-32.6	
5.640	-13.2	H	3.0	34.7	1.0	-46.9	-13.0	-33.9	
7.520	-10.6	H	3.0	34.9	1.0	-44.5	-13.0	-31.5	
High Ch, 1908.75 MHz									
3.818	-18.3	V	3.0	35.3	1.0	-52.6	-13.0	-39.6	
5.726	-14.7	V	3.0	34.7	1.0	-48.5	-13.0	-35.5	
7.635	-13.6	V	3.0	34.9	1.0	-47.6	-13.0	-34.6	
3.818	-14.6	H	3.0	35.3	1.0	-48.9	-13.0	-35.9	
5.726	-14.1	H	3.0	34.7	1.0	-47.9	-13.0	-34.9	
7.635	-12.0	H	3.0	34.9	1.0	-46.0	-13.0	-33.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/16/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: EVDOR0 BC0 HARM

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T343 8449B	Filter 1	Part 24

Band: BC0 EVDO REL. 0

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1.649	-27.5	V	3.0	37.4	1.0	-63.9	-13.0	-50.9	
2.474	-23.2	V	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3.298	-20.6	V	3.0	35.8	1.0	-55.4	-13.0	-42.4	
1.649	-29.0	H	3.0	37.4	1.0	-65.4	-13.0	-52.4	
2.474	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
3.298	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
Mid Ch, 836.52MHz									
1.673	-26.1	V	3.0	37.3	1.0	-62.5	-13.0	-49.5	
2.509	-22.8	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3.346	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
1.673	-27.6	H	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2.509	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3.346	-21.4	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
High Ch, 848.31 MHz									
1.696	-24.8	V	3.0	37.3	1.0	-61.1	-13.0	-48.1	
2.544	-22.5	V	3.0	36.3	1.0	-57.9	-13.0	-44.9	
3.393	-20.0	V	3.0	35.7	1.0	-54.7	-13.0	-41.7	
1.696	-25.9	H	3.0	37.3	1.0	-62.2	-13.0	-49.2	
2.544	-22.0	H	3.0	36.3	1.0	-57.3	-13.0	-44.3	
3.393	-20.5	H	3.0	35.7	1.0	-55.2	-13.0	-42.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band

BC0

1xRTT

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/16/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: CDMA RTT BC0

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1.649	-27.7	V	3.0	37.4	1.0	-64.1	-13.0	-51.1	
2.473	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3.297	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
1.649	-29.0	H	3.0	37.4	1.0	-65.4	-13.0	-52.4	
2.473	-23.5	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.297	-20.5	H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
Mid Ch, 836.52MHz									
1.673	-26.6	V	3.0	37.3	1.0	-63.0	-13.0	-50.0	
2.510	-22.4	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3.346	-21.0	V	3.0	35.8	1.0	-55.7	-13.0	-42.7	
1.673	-27.3	H	3.0	37.3	1.0	-63.7	-13.0	-50.7	
2.510	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3.346	-21.9	H	3.0	35.8	1.0	-56.6	-13.0	-43.6	
High Ch, 848.31MHz									
1.697	-24.8	V	3.0	37.3	1.0	-61.1	-13.0	-48.1	
2.545	-22.4	V	3.0	36.3	1.0	-57.7	-13.0	-44.7	
3.393	-20.0	V	3.0	35.7	1.0	-54.7	-13.0	-41.7	
1.697	-25.3	H	3.0	37.3	1.0	-61.6	-13.0	-48.6	
2.545	-21.9	H	3.0	36.3	1.0	-57.2	-13.0	-44.2	
3.393	-20.3	H	3.0	35.7	1.0	-55.0	-13.0	-42.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band

Band 2

HSDPA

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: Tx, 1900MHz HSDPA

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-18.9	V	3.0	35.4	1.0	-53.3	-13.0	-40.3	
5.557	-14.2	V	3.0	34.7	1.0	-47.9	-13.0	-34.9	
7.409	-14.7	V	3.0	34.9	1.0	-48.6	-13.0	-35.6	
3.705	-17.2	H	3.0	35.4	1.0	-51.6	-13.0	-38.6	
5.557	-13.7	H	3.0	34.7	1.0	-47.4	-13.0	-34.4	
7.409	-13.0	H	3.0	34.9	1.0	-46.9	-13.0	-33.9	
Mid Ch, 1880MHz									
3.760	-18.4	V	3.0	35.3	1.0	-52.7	-13.0	-39.7	
5.640	-14.9	V	3.0	34.7	1.0	-48.6	-13.0	-35.6	
7.520	-14.0	V	3.0	34.9	1.0	-47.9	-13.0	-34.9	
3.760	-17.7	H	3.0	35.3	1.0	-52.0	-13.0	-39.0	
5.640	-14.0	H	3.0	34.7	1.0	-47.8	-13.0	-34.8	
7.520	-13.4	H	3.0	34.9	1.0	-47.3	-13.0	-34.3	
High Ch, 1907.6MHz									
3.815	-17.7	V	3.0	35.3	1.0	-52.0	-13.0	-39.0	
5.723	-7.5	V	3.0	34.7	1.0	-41.2	-13.0	-28.2	
7.630	-14.1	V	3.0	34.9	1.0	-48.0	-13.0	-35.0	
3.815	-17.3	H	3.0	35.3	1.0	-51.6	-13.0	-38.6	
5.723	-13.6	H	3.0	34.7	1.0	-47.3	-13.0	-34.3	
7.630	-13.2	H	3.0	34.9	1.0	-47.1	-13.0	-34.1	

Rev. 03.03.09

Band

Band 2

REL99

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: Tx, 1900MHz Rel 99

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
5.557	-14.1	V	3.0	34.7	1.0	-47.8	-13.0	-34.8	
7.409	-14.3	V	3.0	34.9	1.0	-48.2	-13.0	-35.2	
3.705	-17.8	H	3.0	35.4	1.0	-52.2	-13.0	-39.2	
5.557	-13.4	H	3.0	34.7	1.0	-47.1	-13.0	-34.1	
7.409	-12.9	H	3.0	34.9	1.0	-46.9	-13.0	-33.9	
Mid Ch, 1880MHz									
3.760	-18.1	V	3.0	35.3	1.0	-52.5	-13.0	-39.5	
5.640	-14.4	V	3.0	34.7	1.0	-48.1	-13.0	-35.1	
7.520	-14.4	V	3.0	34.9	1.0	-48.3	-13.0	-35.3	
3.760	-17.6	H	3.0	35.3	1.0	-51.9	-13.0	-38.9	
5.640	-13.9	H	3.0	34.7	1.0	-47.6	-13.0	-34.6	
7.520	-13.0	H	3.0	34.9	1.0	-46.9	-13.0	-33.9	
High Ch, 1907.6MHz									
3.815	-17.3	V	3.0	35.3	1.0	-51.6	-13.0	-38.6	
5.723	-8.4	V	3.0	34.7	1.0	-42.2	-13.0	-29.2	
7.630	-14.5	V	3.0	34.9	1.0	-48.4	-13.0	-35.4	
3.815	-17.1	H	3.0	35.3	1.0	-51.3	-13.0	-38.3	
5.723	-13.3	H	3.0	34.7	1.0	-47.1	-13.0	-34.1	
7.630	-13.0	H	3.0	34.9	1.0	-47.0	-13.0	-34.0	

Rev. 03.03.09

Band

Band 5

HSDPA

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: WCDMA_HSDPA_ 850

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.40MHz									
1.652	-28.6	V	3.0	37.4	1.0	-65.0	-13.0	-52.0	
2.479	-23.0	V	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3.306	-22.0	V	3.0	35.8	1.0	-56.8	-13.0	-43.8	
1.652	-29.0	H	3.0	37.4	1.0	-65.4	-13.0	-52.4	
2.479	-25.4	H	3.0	36.4	1.0	-60.8	-13.0	-47.8	
3.306	-21.0	H	3.0	35.8	1.0	-55.8	-13.0	-42.8	
Mid Ch, 836.6MHz									
1.673	-28.0	V	3.0	37.3	1.0	-64.4	-13.0	-51.4	
2.510	-23.3	V	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3.346	-22.4	V	3.0	35.8	1.0	-57.1	-13.0	-44.1	
1.673	-28.6	H	3.0	37.3	1.0	-65.0	-13.0	-52.0	
2.510	-24.7	H	3.0	36.4	1.0	-60.1	-13.0	-47.1	
3.346	-22.4	H	3.0	35.8	1.0	-57.1	-13.0	-44.1	
High Ch, 846.6MHz									
1.693	-27.7	V	3.0	37.3	1.0	-64.0	-13.0	-51.0	
2.539	-23.3	V	3.0	36.3	1.0	-58.6	-13.0	-45.6	
3.386	-20.6	V	3.0	35.7	1.0	-55.3	-13.0	-42.3	
1.693	-28.1	H	3.0	37.3	1.0	-64.4	-13.0	-51.4	
2.539	-25.6	H	3.0	36.3	1.0	-60.9	-13.0	-47.9	
3.386	-21.0	H	3.0	35.7	1.0	-55.7	-13.0	-42.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Band

Band 5

REL99

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	14U17777
Date:	05/14/14
Test Engineer:	R. Alegre
Configuration:	EUT with AC charger
Mode:	WCDMA_Rel 99_ 850

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.40MHz									
1.652	-28.5	V	3.0	37.4	1.0	-64.9	-13.0	-51.9	
2.479	-23.4	V	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.306	-21.8	V	3.0	35.8	1.0	-56.6	-13.0	-43.6	
1.652	-28.8	H	3.0	37.4	1.0	-65.2	-13.0	-52.2	
2.479	-25.4	H	3.0	36.4	1.0	-60.7	-13.0	-47.7	
3.306	-21.1	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
Mid Ch, 836.6MHz									
1.673	-28.2	V	3.0	37.3	1.0	-64.6	-13.0	-51.6	
2.510	-24.1	V	3.0	36.4	1.0	-59.5	-13.0	-46.5	
3.346	-22.4	V	3.0	35.8	1.0	-57.2	-13.0	-44.2	
1.673	-28.6	H	3.0	37.3	1.0	-65.0	-13.0	-52.0	
2.510	-25.7	H	3.0	36.4	1.0	-61.1	-13.0	-48.1	
3.346	-22.8	H	3.0	35.8	1.0	-57.6	-13.0	-44.6	
High Ch, 846.6MHz									
1.693	-26.7	V	3.0	37.3	1.0	-63.0	-13.0	-50.0	
2.539	-23.1	V	3.0	36.3	1.0	-58.5	-13.0	-45.5	
3.386	-21.0	V	3.0	35.7	1.0	-55.7	-13.0	-42.7	
1.693	-28.3	H	3.0	37.3	1.0	-64.6	-13.0	-51.6	
2.539	-24.3	H	3.0	36.3	1.0	-59.6	-13.0	-46.6	
3.386	-20.7	H	3.0	35.7	1.0	-55.4	-13.0	-42.4	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: EGPRS 1900

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T343 8449B	Filter 1	Part 24

Band

GSM1900

EGPRS

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850MHz									
3.700	-17.9	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
5.550	-16.0	V	3.0	34.7	1.0	-49.8	-13.0	-36.8	
7.400	-13.4	V	3.0	34.9	1.0	-47.3	-13.0	-34.3	
3.700	-17.2	H	3.0	35.4	1.0	-51.6	-13.0	-38.6	
5.550	-15.8	H	3.0	34.7	1.0	-49.6	-13.0	-36.6	
7.400	-10.3	H	3.0	34.9	1.0	-44.2	-13.0	-31.2	
Mid Ch, 1880.0MHz									
3.760	-17.8	V	3.0	35.3	1.0	-52.1	-13.0	-39.1	
5.640	-13.9	V	3.0	34.7	1.0	-47.7	-13.0	-34.7	
7.520	-14.6	V	3.0	34.9	1.0	-48.6	-13.0	-35.6	
3.760	-17.9	H	3.0	35.3	1.0	-52.3	-13.0	-39.3	
5.640	-15.3	H	3.0	34.7	1.0	-49.0	-13.0	-36.0	
7.520	-13.2	H	3.0	34.9	1.0	-47.1	-13.0	-34.1	
High Ch, 1909.8 MHz									
3.820	-18.9	V	3.0	35.3	1.0	-53.2	-13.0	-40.2	
5.729	-15.8	V	3.0	34.7	1.0	-49.6	-13.0	-36.6	
7.639	-12.8	V	3.0	35.0	1.0	-46.8	-13.0	-33.8	
3.820	-15.3	H	3.0	35.3	1.0	-49.5	-13.0	-36.5	
5.729	-14.3	H	3.0	34.7	1.0	-48.1	-13.0	-35.1	
7.639	-13.2	H	3.0	35.0	1.0	-47.1	-13.0	-34.1	

Rev. 03.03.09

Band

GSM1900

GPRS

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: GPRS 1900

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T343 8449B	Filter 1	Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850MHz									
3.700	-19.0	V	3.0	35.4	1.0	-53.4	-13.0	-40.4	
5.550	-14.7	V	3.0	34.7	1.0	-48.4	-13.0	-35.4	
7.400	-14.9	V	3.0	34.9	1.0	-48.8	-13.0	-35.8	
3.700	-18.8	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
5.550	-15.7	H	3.0	34.7	1.0	-49.4	-13.0	-36.4	
7.400	-13.3	H	3.0	34.9	1.0	-47.2	-13.0	-34.2	
Mid Ch, 1880.0MHz									
3.760	-17.3	V	3.0	35.3	1.0	-51.6	-13.0	-38.6	
5.640	-16.1	V	3.0	34.7	1.0	-49.9	-13.0	-36.9	
7.520	-14.3	V	3.0	34.9	1.0	-48.2	-13.0	-35.2	
3.760	-18.0	H	3.0	35.3	1.0	-52.3	-13.0	-39.3	
5.640	-14.9	H	3.0	34.7	1.0	-48.6	-13.0	-35.6	
7.520	-12.4	H	3.0	34.9	1.0	-46.4	-13.0	-33.4	
High Ch, 1909.8 MHz									
3.820	-19.1	V	3.0	35.3	1.0	-53.3	-13.0	-40.3	
5.729	-16.2	V	3.0	34.7	1.0	-49.9	-13.0	-36.9	
7.639	-13.4	V	3.0	35.0	1.0	-47.3	-13.0	-34.3	
3.820	-15.4	H	3.0	35.3	1.0	-49.7	-13.0	-36.7	
5.729	-14.5	H	3.0	34.7	1.0	-48.3	-13.0	-35.3	
7.639	-12.1	H	3.0	35.0	1.0	-46.1	-13.0	-33.1	

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: EGPRS 850

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

Band

GSM850

EGPRS

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2MHz									
1.648	-28.1	V	3.0	37.4	1.0	-64.4	-13.0	-51.4	
2.473	-23.8	V	3.0	36.4	1.0	-59.2	-13.0	-46.2	
3.297	-21.5	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
1.648	-27.6	H	3.0	37.4	1.0	-64.0	-13.0	-51.0	
2.473	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
3.297	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
Mid Ch, 836.6MHz									
1.673	-28.0	V	3.0	37.3	1.0	-64.3	-13.0	-51.3	
2.510	-23.4	V	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3.346	-21.5	V	3.0	35.8	1.0	-56.2	-13.0	-43.2	
1.673	-28.4	H	3.0	37.3	1.0	-64.8	-13.0	-51.8	
2.510	-24.9	H	3.0	36.4	1.0	-60.2	-13.0	-47.2	
3.346	-21.4	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
High Ch, 848.8MHz									
1.698	-26.9	V	3.0	37.3	1.0	-63.2	-13.0	-50.2	
2.547	-23.2	V	3.0	36.3	1.0	-58.6	-13.0	-45.6	
3.395	-20.4	V	3.0	35.7	1.0	-55.1	-13.0	-42.1	
1.698	-24.0	H	3.0	37.3	1.0	-60.4	-13.0	-47.4	
2.547	-20.5	H	3.0	36.3	1.0	-55.9	-13.0	-42.9	
3.395	-20.1	H	3.0	35.7	1.0	-54.8	-13.0	-41.8	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 14U17777
Date: 05/14/14
Test Engineer: R. Alegre
Configuration: EUT with AC charger
Mode: GPRS 850

Chamber	Pre-amplifer	Filter	Limit
5m Chamber A	T34 8449B	Filter 1	Part 24

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 824.2MHz									
GSM850 GPRS	1.648	-27.7	V	3.0	37.4	1.0	-64.0	-13.0	-51.0	
	2.473	-23.4	V	3.0	36.4	1.0	-58.8	-13.0	-45.8	
	3.297	-21.5	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
	1.648	-28.8	H	3.0	37.4	1.0	-65.2	-13.0	-52.2	
	2.473	-24.6	H	3.0	36.4	1.0	-60.0	-13.0	-47.0	
	3.297	-20.6	H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
	Mid Ch, 836.6MHz									
	1.673	-26.7	V	3.0	37.3	1.0	-63.0	-13.0	-50.0	
	2.510	-24.1	V	3.0	36.4	1.0	-59.4	-13.0	-46.4	
	3.346	-21.6	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
	1.673	-28.2	H	3.0	37.3	1.0	-64.6	-13.0	-51.6	
	2.510	-24.8	H	3.0	36.4	1.0	-60.1	-13.0	-47.1	
	3.346	-20.4	H	3.0	35.8	1.0	-55.1	-13.0	-42.1	
	High Ch, 848.8MHz									
	1.698	-25.9	V	3.0	37.3	1.0	-62.2	-13.0	-49.2	
	2.547	-22.6	V	3.0	36.3	1.0	-57.9	-13.0	-44.9	
	3.395	-21.1	V	3.0	35.7	1.0	-55.8	-13.0	-42.8	
	1.698	-25.3	H	3.0	37.3	1.0	-61.6	-13.0	-48.6	
	2.547	-19.8	H	3.0	36.3	1.0	-55.2	-13.0	-42.2	
	3.395	-19.3	H	3.0	35.7	1.0	-54.0	-13.0	-41.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.