



**FCC 47 CFR PART 22H, 24E AND 27L
CERTIFICATION TEST REPORT**

FOR

LTE PHONE BLUETOOTH, WLAN (2.4GHZ & 5GHZ) AND NFC

MODEL NUMBER: LG-D500, LGD500, D500, LGMS500, LG-MS500, MS500

FCC ID: ZNFD500

REPORT NUMBER: 13U15216-1

ISSUE DATE: June 24, 2013

Prepared for
LG ELECTRONICS MOBILECOMM U.S.A., INC.
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
1000 SYLVAN AVE.
ENGLEWOODS CLIFFS, NJ 07632

EUT DESCRIPTION: LTE PHONE BLUETOOTH, WLAN (2.4GHZ & 5GHZ) AND NFC

MODEL: LG-D500, LGD500, D500, LGMS500, LG-MS500, MS500

SERIAL NUMBER: 303KPYR337170 (GSM & UMTS) AND 303KPUH337167 (LTE)

DATE TESTED: APRIL 15 TO MAY19, 2013

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 22H, 24E AND 27L	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS 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.

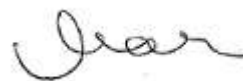
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS 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:

Tested By:



PHILIP KIM
WiSE PROGRAM MANAGER
UL Verification Services Inc.



MONA HUA
WiSE 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 2, FCC CFR 47 Part 22, FCC CFR Part 24, FCC Part 27, RSS-132 Issue 2, RSS-133 Issue 4 and RSS-139 Issue 2.

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.ccsemc.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:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a LTE Phone with Bluetooth, WLAN(2.4GHz & 5GHz) and NFC capabilities.

5.2. MAXIMUM OUTPUT POWER

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

Part 22 Cellular Band					
Frequency range (MHz)	Modulation	Conducted		ERP	
		dBm	mW	dBm	mW
824.2 - 848.8	GPRS	34.00	2511.9	28.82	762.1
824.2 - 848.8	EGPRS	30.70	1174.9	25.44	349.9

Part 24 PCS Band					
Frequency range (MHz)	Modulation	Conducted		EIRP	
		dBm	mW	dBm	mW
1850.2 - 1909.8	GPRS	31.59	1442.1	29.35	861.0
1850.2 - 1909.8	EGPRS	31.69	1475.7	27.06	508.2

Part 22/24 Band					
Frequency range (MHz)	Modulation	Conducted		ERP/EIRP	
		dBm	mW	dBm	mW
826.4 - 846	REL 99	27.70	588.8	22.53	179.1
1852.4 - 1907.6		27.48	559.8	25.87	386.4

Part 22/24 Band					
Frequency range (MHz)	Modulation	Conducted		ERP/EIRP	
		dBm	mW	dBm	mW
826.4 - 846	HSDPA	28.00	631.0	23.72	235.5
1852.4 - 1907.6		27.82	605.3	26.72	469.9

Part 27 Band					
Frequency range (MHz)	Modulation	Conducted		EIRP	
		dBm	mW	dBm	mW
1712.4-1752.6	AWS Rel 99	27.37	545.8	26.55	451.9
	AWS HSDPA	27.54	567.5	27.36	544.5

Part 24 LTE Band 2 MODE (5.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1852.5-1907.5	QPSK	25/0	28.30	676.1	28.07	641.2
	16QAM		28.26	669.9	27.17	521.2

Part 24 LTE Band 2 MODE (10.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1855.0-1905	QPSK	50/0	28.31	677.6	29.07	807.2
	16QAM		28.01	632.4	28.67	736.2

Part 27 LTE Band 4 MODE (5.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1712.5-1752.5	QPSK	25/0	28.28	673.0	27.61	576.8
	16QAM		27.48	559.8	26.91	490.9

Part 27 LTE Band 4 MODE (10.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1715.0-1750.0	QPSK	50/0	27.95	623.7	28.01	632.4
	16QAM		27.73	592.9	27.01	502.3

Part 27 LTE Band 4 MODE (15.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1717.5-1747.5	QPSK	75/0	28.08	642.7	28.65	732.8
	16QAM		28.34	682.3	27.85	609.5

Part 27 LTE Band 4 MODE (20.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
1720.0-1745.0	QPSK	100/0	28.04	636.8	27.61	576.8
	16QAM		28.38	688.7	27.11	514.0

Part 27 LTE Band 17 MODE (5.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
706.5-713.5	QPSK	25/0	28.70	741.3	20.36	108.6
	16QAM		27.97	626.6	19.07	80.7

Part 27 LTE Band 17 MODE (10.0 MHz BANDWIDTH)						
Frequency range (MHz)	Modulation	Start RB and RB offset	Conducted		EIRP	
			dBm	mW	dBm	mW
709.0-711.0	QPSK	50/0	28.48	704.7	21.02	126.5
	16QAM		27.89	615.2	20.10	102.3

5.3. SOFTWARE AND FIRMWARE

The EUT is linked with Agilent 8960 and CMW500 Communication Test Sets.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an integral antenna with a maximum peak gain as follow:

BAND	Gain (dBi)
GSM850/WCDMA B5(824-894MHz)	-4.7
PCS/WCDMA B2 (1850-1990MHz)	0.35
WCDMA B4/LTE B4(1710-2155MHz)	1.1
LTE band 17 (704-746MHz)	-3.2

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case is EUT on the highest power. Based on Peak Power measurement investigations, the following modes should be considered as worst-case scenario for all other measurements.

Worst-case modes:

- GSM: GPRS and EGPRS
- UMTS: WCDMA and HSDPA
- LTE: Band 2, 4, and 17

For the fundamental investigation, since the EUT is a portable device that has three orientations; an X, Y and Z orientations and the worst among X, Y, and Z with AC/DC adapter and headset have been investigated. After the investigation the worst case was found to be X-Position with an AC Adapter for Cell bands and Z-position with an AC Adapter and headset for PCS bands respectively

5.6. DESCRIPTION OF TEST SETUP

RADIATED TESTS SUPPORT EQUIPMENT

Support Equipment List			
Description	Manufacturer	Model	Serial Number
AC Adapter	LG	MCS-01WR	RB320071516
Headset	LG	NA	NA

I/O CABLES (RF Conducted Test)

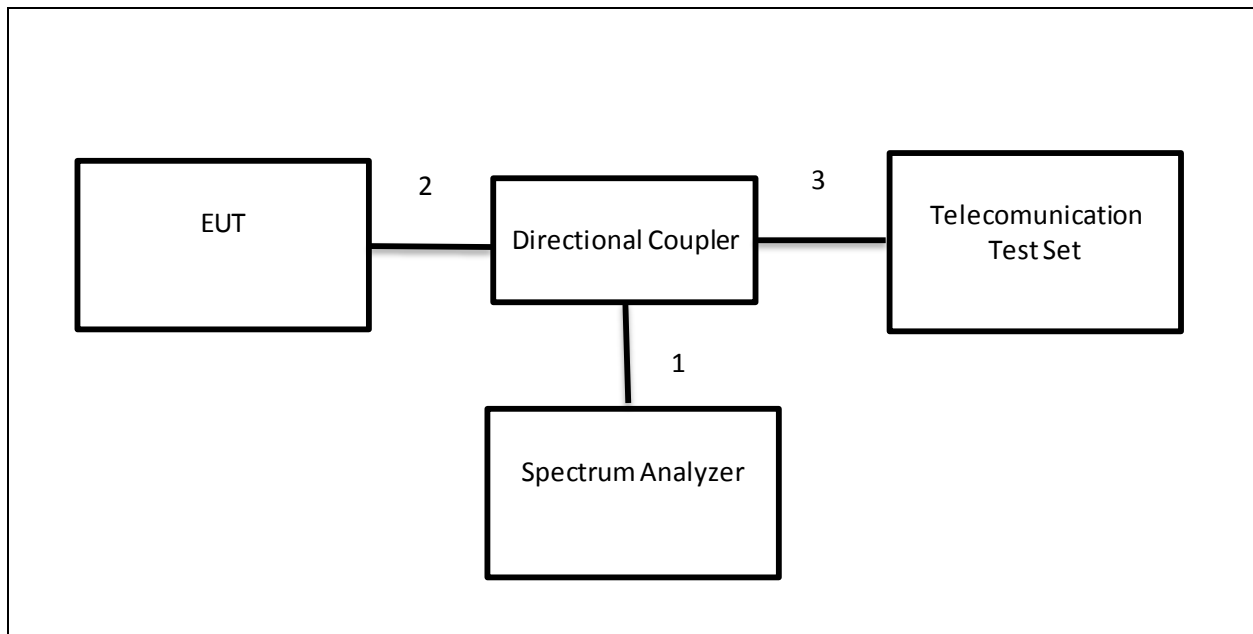
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	RF In/Out	1	Spectrum Analyzer	UN-SHELDED	None	N/A
2	RF out	1	Directional Coupler	UN-SHELDED	0.1m	N/A
3	RF In/Out	1	Communication Call box	UN-SHELDED	0.5m	N/A

I/O CABLES (RF Radiated Test)

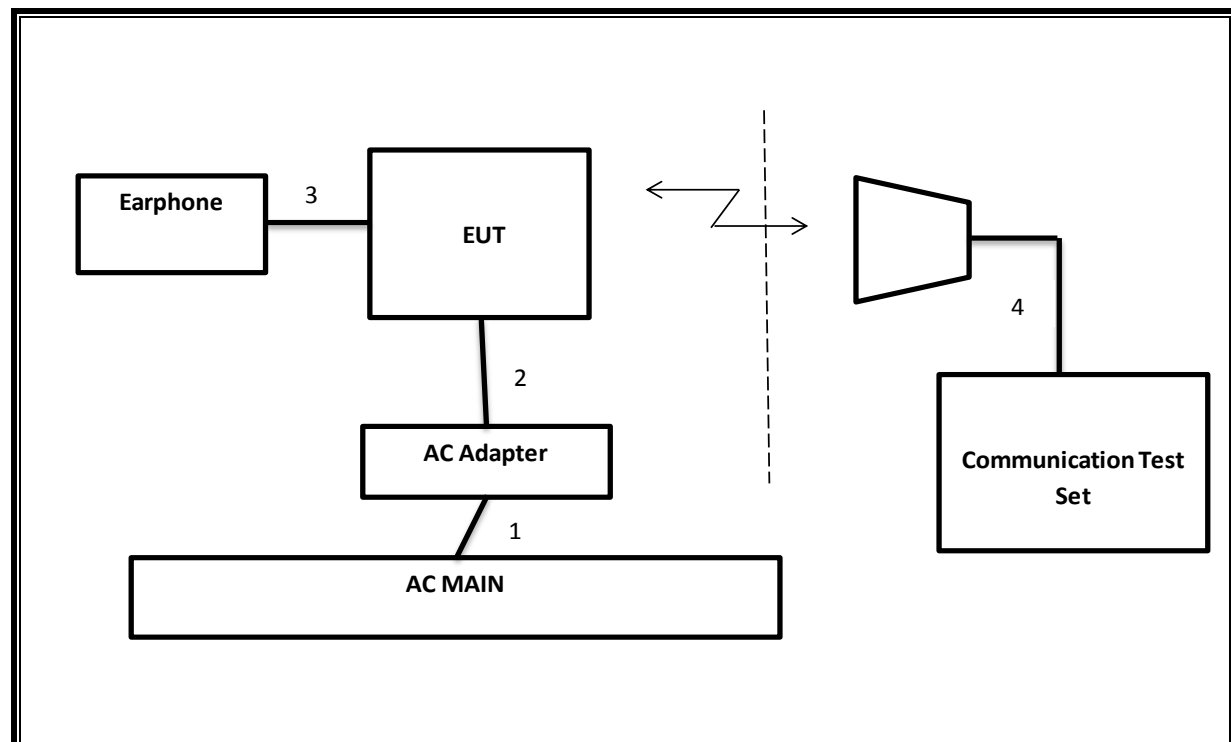
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	115VAC	UN-SHELDED	1.0m	N/A
2	DC	1	DC	UN-SHELDED	1.0m	Volume control on
3	Audio	1	Earphone	UN-SHELDED	1.0m	NA
4	RF In/Out	1	Horn	UN-SHELDED	5m	NA

TEST SETUP

CONDUCTED SETUP



RADIATED 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
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	02/26/14
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/13
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/13
Antenna, Horn, 18 GHz	EMCO	3115	C00945	12/11/13
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	03/28/14
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/13
Communication Test Set	Agilent / HP	E5515C	C01086	11/10/13
Communication Test Set	R & S	CMW500	None	06/28/13
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	01/09/14
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Directional Coupler, 4.2 GHz, 40 dB	A-R	DC7144A	C00983	CNR
Vector Signal Generator	Agilent / HP	E4438C	None	07/06/13
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121C DB4	C00993	02/01/14

7. RADIATED TEST RESULTS

7.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232 and §27.50

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.

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17

The ERP/EIRP power was measured with the spectrum analyzer which attached with receiver antenna via calibrated cable. The measurements have been taken at the low, middle and high channel in each band.

- Set the spectrum analyzer span wide enough or greater than the modulated signal BW.
- Set a spectrum analyzer at peak detection mode with VBW \geq RBW \geq 26dB BW, typically 3MHz for GSM and 5MHz for WCDMA modes respectively.
- Set a marker to point the corresponding peak value.

MODES TESTED

- GPRS and EGPRS
- UMTS, REL 99, and HSDPA
- LTE Band 2,4 and 17

RESULTS

Mode	Channel	f (MHz)	ERP	
			dBm	mW
GPRS	128	824.20	24.45	278.61
	190	836.60	27.40	549.54
	251	848.80	27.60	575.44
EGPRS	128	824.20	25.13	325.84
	190	836.60	25.59	362.24
	251	848.80	24.87	306.90

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
GPRS	512	1850.20	28.84	765.60
	661	1880.00	24.61	289.07
	810	1909.80	30.15	1035.14
EGPRS	512	1850.20	24.47	279.90
	661	1880.00	26.64	461.32
	810	1909.80	24.90	309.03

Mode	Channel	f (MHz)	ERP	
			dBm	mW
REL 99	4357	826.40	17.70	58.88
	4408	836.60	17.70	58.88
	4458	846.60	20.01	100.23
	9662	1852.40	25.54	358.10
	9800	1880.00	24.42	276.69
	9938	1907.60	25.80	380.19

Mode	Channel	f (MHz)	ERP / EIRP	
			dBm	mW
HSDPA	4357	826.40	19.10	81.28
	4405	836.00	17.00	50.12
	4455	846.00	16.40	43.65
	9662	1852.40	19.09	81.10
	9800	1880.00	17.56	57.02
	9938	1907.60	18.25	66.83

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
UMTS 1700, REL 99	1537	1712.40	24.92	310.46
	1638	1732.60	24.81	302.69
	1738	1752.50	25.30	338.84

Mode	Channel	f (MHz)	EIRP	
			dBm	mW
UMTS 1700, HSDPA	1537	1712.40	20.84	121.34
	1638	1732.60	21.51	141.58
	1738	1752.50	23.23	210.38

EIRP LTE Band 2 (5.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	1853.0	28.79	756.83
		1880.0	28.35	683.91
		1908.0	28.15	653.13
5.0 MHZ BAND 16QAM	25/0	1853.0	27.79	601.17
		1880.0	27.40	549.54
		1908.0	27.15	518.80

EIRP LTE Band 2 (10 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
10 MHZ BAND QPSK	50/0	1855.0	28.69	739.61
		1880.0	28.55	716.14
		1905.0	28.25	668.34
10 MHZ BAND 16QAM	50/0	1855.0	27.69	587.49
		1880.0	27.55	568.85
		1905.0	27.25	530.88

EIRP LTE Band 4 (5 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
5MHZ BAND QPSK	25/0	1713.0	27.19	523.60
		1733.0	26.89	488.65
		1753.0	27.19	523.60
5 MHZ BAND 16QAM	25/0	1713.0	26.19	415.91
		1733.0	25.89	388.15
		1753.0	26.19	415.91

EIRP LTE Band 4 (10.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	1715.0	26.99	500.03
		1732.5	27.09	511.68
		1750.0	27.19	523.60
10.0 MHZ BAND 16QAM	50/0	1715.0	25.99	397.19
		1732.5	26.19	415.91
		1750.0	26.19	415.91

EIRP LTE Band 4 (15.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	1718.0	27.19	523.60
		1733.0	27.29	535.80
		1748.0	26.99	500.03
15.0 MHZ BAND 16QAM	75/0	1718.0	26.19	415.91
		1733.0	26.29	425.60
		1748.0	25.99	397.19

EIRP LTE Band 4 (20.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	1720.0	27.19	523.60
		1733.0	27.39	548.28
		1745.0	27.49	561.05
20.0 MHZ BAND 16QAM	100/0	1720.0	26.29	425.60
		1733.0	26.39	435.51
		1745.0	26.49	445.66

ERP LTE Band 17 (5.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
5MHz Band QPSK	1/0	706.5	17.35	54.33
		710.0	17.85	60.95
		713.5	18.45	69.98
5MHz Band 16QAM	1/0	706.5	16.35	43.15
		710.0	16.85	48.42
		713.5	17.45	55.59

ERP LTE Band 17 (10.0 MHz BAND WIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	709.0	17.25	53.09
		710.0	17.35	54.33
		711.0	18.35	68.39
10.0 MHZ BAND 16QAM	1/0	709.0	16.25	42.17
		710.0	16.35	43.15
		711.0	17.35	54.33

GPRS (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U14916						
Date:		06/06/13						
Test Engineer:		Lieu Nguyen						
Configuration:		EUT only						
Mode:		TX, GPRS850						
		Peak						
Test Equipment:								
Receiving: Sunol T243 and Chamber B N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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	24.95	V	0.5	0.0	24.45	38.5	-14.0	
824.20	18.68	H	0.5	0.0	18.18	38.5	-20.3	
Mid Ch								
836.60	27.90	V	0.5	0.0	27.40	38.5	-11.0	
836.60	21.00	H	0.5	0.0	20.50	38.5	-18.0	
High Ch								
848.80	28.10	V	0.5	0.0	27.60	38.5	-10.8	
848.80	20.66	H	0.5	0.0	20.16	38.5	-18.3	
Rev. 3.17.11								

EGPRS (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/20/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT Only						
Mode:		Tx, EGPRS Mode Cell Band						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
824.20	24.83	V	0.6	0.9	25.13	38.5	-13.3	
824.20	21.06	H	0.6	0.9	21.36	38.5	-17.1	
Mid ch								
836.60	24.99	V	0.6	0.9	25.29	38.5	-13.2	
836.60	20.01	H	0.6	0.9	20.31	38.5	-18.1	
High ch								
848.80	24.57	V	0.6	0.9	24.87	38.5	-13.6	
848.80	20.94	H	0.6	0.9	21.24	38.5	-17.2	
Rev. 3.17.11								

GPRS (PCS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/06/13						
Test Engineer:		Lieu Nguyen						
Configuration:		EUT only						
Mode:		TX GSM1900 GPRS						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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
1.852	14.1	V	0.85	8.62	21.87	33.0	-11.1	
1.852	21.2	H	0.85	8.47	28.84	33.0	-4.2	
1.880	16.5	V	0.85	8.46	24.12	33.0	-8.9	
1.880	17.1	H	0.85	8.36	24.61	33.0	-8.4	
1.908	22.7	V	0.85	8.30	30.15	33.0	-2.9	
1.908	22.6	H	0.85	8.25	30.00	33.0	-3.0	
Rev. 3.17.11								

EGPRS (PCS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15118						
Date:		05/22/13						
Test Engineer:		Steven Tran						
Configuration:		EUT Only						
Mode:		Tx, EGPRS Mode PCS Band						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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								
1.850	7.1	V	0.85	8.62	14.90	33.0	-18.1	
1.850	17.9	H	0.85	8.47	25.47	33.0	-7.5	
Mid								
1.880	7.6	V	0.85	8.46	15.25	33.0	-17.8	
1.880	19.1	H	0.85	8.36	26.64	33.0	-6.4	
High Ch								
1.910	5.9	V	0.85	8.30	13.30	33.0	-19.7	
1.910	17.5	H	0.85	8.25	24.90	33.0	-8.1	
Rev. 3.17.11								

UMTS 850 REL 99 (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/07/13						
Test Engineer:		Lieu Nguyen						
Configuration:		EUT only						
Mode:		TX, 850MHz BAND WCDMA Rel 99						
Test Equipment:								
Receiving: Sunol T243 and Chamber B N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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	18.20	V	0.5	0.0	17.70	38.5	-20.7	
826.40	6.60	H	0.5	0.0	6.10	38.5	-32.3	
Mid Ch								
836.00	18.20	V	0.5	0.0	17.70	38.5	-20.7	
836.00	4.20	H	0.5	0.0	3.70	38.5	-34.7	
High Ch								
846.00	20.51	V	0.5	0.0	20.01	38.5	-18.4	
846.00	16.90	H	0.5	0.0	16.40	38.5	-22.0	
Rev. 3.17.11								

UMTS 1900 REL 99 (PCS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/06/13						
Test Engineer:		Lieu Nguyen						
Configuration:		EUT only						
Mode:		TX PCS Band WCDMA_Rel 99						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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
1.852	17.5	V	0.85	8.62	25.27	33.0	-7.7	
1.852	17.9	H	0.85	8.47	25.54	33.0	-7.5	
1.880	16.1	V	0.85	8.46	23.72	33.0	-9.3	
1.880	16.9	H	0.85	8.36	24.42	33.0	-8.6	
1.908	17.7	V	0.85	8.30	25.15	33.0	-7.9	
1.908	18.4	H	0.85	8.25	25.80	33.0	-7.2	
Rev. 3.17.11								

UMTS 850 HSDPA (Cellular Band)

High Frequency Substitution Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/20/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		TX, 850MHz BAND WCDMA HSDPA						
Test Equipment:								
Receiving: Sunol T122, and Chamber F 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								
826.40	14.07	V	0.9	0.0	13.17	38.5	-25.3	
826.40	20.00	H	0.9	0.0	19.10	38.5	-19.3	
Mid Ch								
836.00	14.44	V	0.9	0.0	13.54	38.5	-24.9	
836.00	17.90	H	0.9	0.0	17.00	38.5	-21.5	
High Ch								
846.00	14.41	V	0.9	0.0	13.51	38.5	-24.9	
846.00	17.30	H	0.9	0.0	16.40	38.5	-22.0	
Rev. 3.17.11								

UMTS 1900 HSDPA (PCS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/21/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only						
Mode:		TX, WCDMA 1900 MHz, HSDPA						
Test Equipment:								
Receiving: Sunol T122, and Chamber F Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) 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								
1.852	11.2	V	0.9	8.62	18.89	33.0	-14.1	
1.852	11.2	H	0.9	8.82	19.09	33.0	-13.9	
Mid ch								
1.880	9.9	V	0.9	8.53	17.56	33.0	-15.4	
1.880	8.8	H	0.9	8.68	16.58	33.0	-16.4	
High Ch								
1.907	10.7	V	0.9	8.45	18.25	33.0	-14.8	
1.907	9.2	H	0.9	8.56	16.86	33.0	-16.1	
Rev. 3.17.11								

UMTS 1700 REL 99 (AWS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber A								
Company:		LG						
Project #:		13U15216						
Date:		06/06/13						
Test Engineer:		Lieu Nguyen						
Configuration:		EUT only						
Mode:		TX, WCDMA, AWS 1700 band						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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
1.712	17.1	V	0.85	8.62	24.87	33.0	-8.1	
1.712	17.3	H	0.85	8.47	24.92	33.0	-8.1	
1.732	16.9	V	0.85	8.46	24.51	33.0	-8.5	
1.732	17.3	H	0.85	8.36	24.81	33.0	-8.2	
1.752	16.0	V	0.85	8.30	23.45	33.0	-9.6	
1.752	17.9	H	0.85	8.25	25.30	33.0	-7.7	
Rev. 3.17.11								

UMTS 1700 HSDPA (AWS Band)

High Frequency Fundamental Measurement Compliance Certification Services Chamber B								
Company:		LG						
Project #:		13U15216						
Date:		06/21/13						
Test Engineer:		Kiya Kedida						
Configuration:		EUT only with AC adapter						
Mode:		TX, AWS 1700, HSDPA						
<u>Test Equipment:</u>								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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
1.712	13.1	V	0.85	8.62	20.84	33.0	-12.2	
1.712	12.3	H	0.85	8.47	19.87	33.0	-13.1	
1.733	13.9	V	0.85	8.46	21.51	33.0	-11.5	
1.733	12.5	H	0.85	8.36	20.03	33.0	-13.0	
1.753	15.8	V	0.85	8.30	23.23	33.0	-9.8	
1.753	12.8	H	0.85	8.25	20.17	33.0	-12.8	
Rev. 3.17.11								

LTE BAND 2

EIRP LTE QPSK Band 2 (5.0 MHz BAND WIDTH)

**High Frequency Fundamental Measurement
Compliance Certification Services Chamber D**

Company: LG
Project #: 13U15216
Date: 06/01/13
Test Engineer: Roy Zheng
Configuration: EUT Only
Mode: LTE band 2, 5MHz BW
QPSK, Peak, RB25-0

Test Equipment:

Receiving: Horn T59, and Chamber B SMA Cables

Substitution: Horn T217 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								
1.853	21.7	V	0.85	7.94	28.79	33.0	-4.2	
1.853	20.1	H	0.85	8.80	28.05	33.0	-5.0	
Mid Ch								
1.880	21.3	V	0.85	7.95	28.35	33.0	-4.7	
1.880	20.2	H	0.85	8.68	28.03	33.0	-5.0	
High Ch								
1.908	21.0	V	0.85	7.97	28.15	33.0	-4.9	
1.908	20.2	H	0.85	8.57	27.92	33.0	-5.1	

Rev. 3.17.11

EIRP LTE 16QAM Band 2 (5.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/01/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE band 2, 5MHz BW 16QAM, Peak, RB25-0						
Test Equipment:								
Receiving: Horn T59, and Chamber D SMA Cables								
Substitution: Horn T217 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								
1.853	20.7	V	0.85	7.94	27.79	33.0	-5.2	
1.853	19.0	H	0.85	8.80	26.95	33.0	-6.1	
Mid Ch								
1.880	20.3	V	0.85	7.95	27.40	33.0	-5.6	
1.880	19.2	H	0.85	8.68	27.03	33.0	-6.0	
High Ch								
1.908	20.0	V	0.85	7.97	27.15	33.0	-5.9	
1.908	19.2	H	0.85	8.57	26.92	33.0	-6.1	
Rev. 3.17.11								

EIRP LTE QPSK Band 2 (10 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/01/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE band 2, 10MHz BW						
		QPSK, Peak, RB50-0						
Test Equipment:								
Receiving: Horn T59, and Chamber B SMA Cables								
Substitution: Horn T217 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								
1.855	21.6	V	0.85	7.94	28.69	33.0	-4.3	
1.855	20.3	H	0.85	8.80	28.25	33.0	-4.8	
Mid Ch								
1.880	21.5	V	0.85	7.95	28.55	33.0	-4.5	
1.880	20.5	H	0.85	8.68	28.33	33.0	-4.7	
High Ch								
1.905	21.1	V	0.85	7.97	28.25	33.0	-4.8	
1.905	20.2	H	0.85	8.57	27.92	33.0	-5.1	
Rev. 3.17.11								

EIRP LTE 16QAM Band 2 (10 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/01/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE band 2, 10MHz BW 16QAM, Peak, RB50-0						
Test Equipment:								
Receiving: Horn T59, and Chamber D SMA Cables								
Substitution: Horn T217 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								
1.855	20.6	V	0.85	7.94	27.69	33.0	-5.3	
1.855	19.3	H	0.85	8.80	27.25	33.0	-5.8	
Mid Ch								
1.880	20.5	V	0.85	7.95	27.55	33.0	-5.5	
1.880	19.5	H	0.85	8.68	27.33	33.0	-5.7	
High Ch								
1.905	20.1	V	0.85	7.97	27.25	33.0	-5.8	
1.905	19.2	H	0.85	8.57	26.92	33.0	-6.1	
Rev. 3.17.11								

LTE BAND 4

EIRP LTE QPSK Band 4 (5.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 5MHz BW						
		QPSK, Peak, RB25-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	11.9	V	1.50	8.16	18.54	30.0	-11.5	
1.713	20.1	H	1.50	8.59	27.19	30.0	-2.8	
Mid Ch								
1.733	12.4	V	1.50	8.11	19.00	30.0	-11.0	
1.733	19.7	H	1.50	8.69	26.89	30.0	-3.1	
High Ch								
1.753	12.0	V	1.50	8.07	18.57	30.0	-11.4	
1.753	19.9	H	1.50	8.79	27.19	30.0	-2.8	
Rev. 3.17.11								

EIRP LTE 16QAM Band 4 (5.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 5MHz BW 16QAM, Peak, RB25-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	10.9	V	1.50	8.16	17.54	30.0	-12.5	
1.713	19.1	H	1.50	8.59	26.19	30.0	-3.8	
Mid Ch								
1.733	11.4	V	1.50	8.11	18.00	30.0	-12.0	
1.733	18.7	H	1.50	8.69	25.89	30.0	-4.1	
High Ch								
1.753	11.1	V	1.50	8.07	17.67	30.0	-12.3	
1.753	18.9	H	1.50	8.79	26.19	30.0	-3.8	
Rev. 3.17.11								

EIRP LTE QPSK Band 4 (10.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 10MHz BW						
		QPSK, Peak, RB50-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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								
1.715	12.2	V	1.50	8.16	18.84	30.0	-11.2	
1.715	19.9	H	1.50	8.59	26.99	30.0	-3.0	
Mid Ch								
1.733	12.7	V	1.50	8.11	19.30	30.0	-10.7	
1.733	19.9	H	1.50	8.69	27.09	30.0	-2.9	
High Ch								
1.750	12.1	V	1.50	8.07	18.67	30.0	-11.3	
1.750	19.9	H	1.50	8.79	27.19	30.0	-2.8	
Rev. 3.17.11								

EIRP LTE 16QAM Band 4 (10.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 10MHz BW 16QAM, Peak, RB50-0						
Test Equipment:								
Receiving: Horn T59, and Chamber D SMA Cables								
Substitution: Horn T217 Substitution, 8ft SMA Cable 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								
1.715	11.2	V	1.50	8.16	17.84	30.0	-12.2	
1.715	18.9	H	1.50	8.59	25.99	30.0	-4.0	
Mid Ch								
1.733	11.8	V	1.50	8.11	18.40	30.0	-11.6	
1.733	19.0	H	1.50	8.69	26.19	30.0	-3.8	
High Ch								
1.750	11.1	V	1.50	8.07	17.67	30.0	-12.3	
1.750	18.9	H	1.50	8.79	26.19	30.0	-3.8	
Rev. 3.17.11								

EIRP LTE QPSK Band 4 (15.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 15MHz BW						
		QPSK, Peak, RB75-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	12.3	V	1.50	8.16	18.94	30.0	-11.1	
1.718	20.1	H	1.50	8.59	27.19	30.0	-2.8	
Mid Ch								
1.733	12.4	V	1.50	8.11	19.00	30.0	-11.0	
1.733	20.1	H	1.50	8.69	27.29	30.0	-2.7	
High Ch								
1.748	12.3	V	1.50	8.07	18.87	30.0	-11.1	
1.748	19.7	H	1.50	8.79	26.99	30.0	-3.0	
Rev. 3.17.11								

EIRP LTE 16QAM Band 4 (15.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 15MHz BW						
		16QAM, Peak, RB75-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	11.3	V	1.50	8.16	17.94	30.0	-12.1	
1.718	19.1	H	1.50	8.59	26.19	30.0	-3.8	
Mid Ch								
1.733	11.4	V	1.50	8.11	18.00	30.0	-12.0	
1.733	19.1	H	1.50	8.69	26.29	30.0	-3.7	
High Ch								
1.748	11.3	V	1.50	8.07	17.87	30.0	-12.1	
1.748	18.7	H	1.50	8.79	25.99	30.0	-4.0	
Rev. 3.17.11								

EIRP LTE QPSK Band 4 (20.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 20MHz BW						
		QPSK, Peak, RB15-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	12.6	V	1.50	8.16	19.24	30.0	-10.8	
1.720	20.1	H	1.50	8.59	27.19	30.0	-2.8	
Mid Ch								
1.733	12.2	V	1.50	8.11	18.80	30.0	-11.2	
1.733	20.2	H	1.50	8.69	27.39	30.0	-2.6	
High Ch								
1.745	11.7	V	1.50	8.07	18.27	30.0	-11.7	
1.745	20.2	H	1.50	8.79	27.49	30.0	-2.5	
Rev. 3.17.11								

EIRP LTE 16QAM Band4 (20.0 MHz BAND WIDTH)

High Frequency Fundamental Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		06/04/13						
Test Engineer:		Mona Hua						
Configuration:		EUT Only						
Mode:		LTE band 4, 20MHz BW						
		16QAM, Peak, RB100-0						
Test Equipment:								
Receiving: Horn T344, and Chamber D SMA Cables								
Substitution: Horn T60 Substitution, 8ft SMA Cable 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	11.6	V	1.50	8.16	18.26	30.0	-11.7	
1.720	19.2	H	1.50	8.59	26.29	30.0	-3.7	
Mid Ch								
1.733	12.1	V	1.50	8.11	18.71	30.0	-11.3	
1.733	19.2	H	1.50	8.69	26.39	30.0	-3.6	
High Ch								
1.745	10.8	V	1.50	8.07	17.37	30.0	-12.6	
1.745	19.2	H	1.50	8.79	26.49	30.0	-3.5	
Rev. 3.17.11								

LTE BAND 17

ERP LTE QPSK, Band 17 (5.0 MHz BAND WIDTH)

High Frequency Substitution Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		05/31/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE Band 17, 5MHz BW QPSK, Average, RB 1-0						
Test Equipment:								
Receiving: Sunol T243, and Chamber D N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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								
706.50	7.80	V	0.5	0.0	7.30	34.8	-27.5	
706.50	17.85	H	0.5	0.0	17.35	34.8	-17.5	
Mid Ch								
710.00	8.50	V	0.5	0.0	8.00	34.8	-26.8	
710.00	18.35	H	0.5	0.0	17.85	34.8	-17.0	
High Ch								
713.50	9.70	V	0.5	0.0	9.20	34.8	-25.6	
713.50	18.95	H	0.5	0.0	18.45	34.8	-16.4	
Rev. 3.17.11								

ERP LTE 16QAM Band 17 (5.0 MHz BAND WIDTH)

High Frequency Substitution Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		05/31/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE Band 17, 5MHz BW 16QAM, Average, RB 1-0						
Test Equipment:								
Receiving: Sunol T243, and Chamber D N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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								
706.50	6.80	V	0.5	0.0	6.30	34.8	-28.5	
706.50	16.85	H	0.5	0.0	16.35	34.8	-18.5	
Mid Ch								
710.00	7.50	V	0.5	0.0	7.00	34.8	-27.8	
710.00	17.35	H	0.5	0.0	16.85	34.8	-18.0	
High Ch								
713.50	8.70	V	0.5	0.0	8.20	34.8	-26.6	
713.50	17.95	H	0.5	0.0	17.45	34.8	-17.4	
Rev. 3.17.11								

ERP LTE QPSK Band 17 (10.0 MHz BAND WIDTH)

High Frequency Substitution Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		05/31/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE Band 17, 10MHz BW						
		QPSK, Average, RB 1-0						
Test Equipment:								
Receiving: Sunol T243, and Chamber D N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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								
709.00	8.70	V	0.5	0.0	8.20	34.8	-26.6	
709.00	17.75	H	0.5	0.0	17.25	34.8	-17.6	
Mid Ch								
710.00	8.20	V	0.5	0.0	7.70	34.8	-27.1	
710.00	17.85	H	0.5	0.0	17.35	34.8	-17.5	
High Ch								
711.00	8.90	V	0.5	0.0	8.40	34.8	-26.4	
711.00	18.85	H	0.5	0.0	18.35	34.8	-16.5	
Rev. 3.17.11								

ERP LTE 16QAM Band 17 (10.0 MHz BAND WIDTH)

High Frequency Substitution Measurement Compliance Certification Services Chamber D								
Company:		LG						
Project #:		13U15216						
Date:		05/31/13						
Test Engineer:		Roy Zheng						
Configuration:		EUT Only						
Mode:		LTE Band 17, 10MHz BW 16QAM, Average, RB 1-0						
Test Equipment:								
Receiving: Sunol T243, and Chamber D N-type Cable (Setup this one for testing EUT)								
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) 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								
709.00	12.42	V	0.5	0.0	11.92	34.8	-22.9	
709.00	16.75	H	0.5	0.0	16.25	34.8	-18.6	
Mid Ch								
710.00	12.12	V	0.5	0.0	11.62	34.8	-23.2	
710.00	16.85	H	0.5	0.0	16.35	34.8	-18.5	
High Ch								
711.00	12.62	V	0.5	0.0	12.12	34.8	-22.7	
711.00	17.85	H	0.5	0.0	17.35	34.8	-17.5	
Rev. 3.17.11								

7.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238 and §27.53

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.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.

TEST PROCEDURE

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

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

MODES TESTED

- GPRS and EGPRS
- UMTS, REL 99, and HSDPA
- LTE Band 2 4 and 17

RESULTS

GPRS (Cellular Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, GPRS 850							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T144 8449B		Filter 1		Part 22			
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	-21.0	V	3.0	38.2	1.0	-58.1	-13.0	-45.1	
2.473	-14.7	V	3.0	37.5	1.0	-51.2	-13.0	-38.2	
1.648	-19.3	H	3.0	38.2	1.0	-56.4	-13.0	-43.4	
2.473	-16.5	H	3.0	37.5	1.0	-53.0	-13.0	-40.0	
Mid Ch, (836.4MHz)									
1.673	-16.8	V	3.0	38.1	1.0	-53.9	-13.0	-40.9	
2.510	-14.6	V	3.0	37.5	1.0	-51.1	-13.0	-38.1	
1.673	-17.3	H	3.0	38.1	1.0	-54.4	-13.0	-41.4	
2.510	-17.8	H	3.0	37.5	1.0	-54.2	-13.0	-41.2	
High Ch, (848.8MHz)									
1.698	-12.7	V	3.0	38.1	1.0	-49.8	-13.0	-36.8	
2.546	-16.4	V	3.0	37.5	1.0	-52.9	-13.0	-39.9	
1.698	-19.8	H	3.0	38.1	1.0	-56.9	-13.0	-43.9	
2.546	-17.8	H	3.0	37.5	1.0	-54.3	-13.0	-41.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

EGPRS (Cellular Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/21/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, EGPRS 850							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber B		T144 8449B		Filter 1		Part 22			
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	-16.3	V	3.0	38.2	1.0	-53.5	-13.0	-40.5	
2.473	-11.4	V	3.0	37.5	1.0	-47.8	-13.0	-34.8	
1.648	-16.7	H	3.0	38.2	1.0	-53.8	-13.0	-40.8	
2.473	-12.5	H	3.0	37.5	1.0	-49.0	-13.0	-36.0	
Mid Ch, (836.4MHz)									
1.673	-15.6	V	3.0	38.1	1.0	-52.8	-13.0	-39.8	
2.510	-11.7	V	3.0	37.5	1.0	-48.1	-13.0	-35.1	
1.673	-15.3	H	3.0	38.1	1.0	-52.5	-13.0	-39.5	
2.510	-12.7	H	3.0	37.5	1.0	-49.2	-13.0	-36.2	
High Ch, (848.8MHz)									
1.698	-16.2	V	3.0	38.1	1.0	-53.3	-13.0	-40.3	
2.546	-11.2	V	3.0	37.5	1.0	-47.7	-13.0	-34.7	
1.698	-15.6	H	3.0	38.1	1.0	-52.7	-13.0	-39.7	
2.546	-14.0	H	3.0	37.5	1.0	-50.4	-13.0	-37.4	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

GPRS (PCS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, GPRS 1900							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T144 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, (1850.2MHz)									
3.700	-14.1	V	3.0	36.8	1.0	-49.9	-13.0	-36.9	
5.555	-12.3	V	3.0	36.3	1.0	-47.6	-13.0	-34.6	
3.700	-13.7	H	3.0	36.8	1.0	-49.5	-13.0	-36.5	
5.555	-10.8	H	3.0	36.3	1.0	-46.0	-13.0	-33.0	
Mid Ch, (1880MHz)									
3.760	-13.2	V	3.0	36.8	1.0	-49.0	-13.0	-36.0	
5.640	-11.1	V	3.0	36.3	1.0	-46.4	-13.0	-33.4	
3.760	-13.9	H	3.0	36.8	1.0	-49.7	-13.0	-36.7	
5.640	-10.3	H	3.0	36.3	1.0	-45.6	-13.0	-32.6	
High Ch, (1909.8MHz)									
3.820	-13.4	V	3.0	36.7	1.0	-49.1	-13.0	-36.1	
5.729	-11.7	V	3.0	36.3	1.0	-47.0	-13.0	-34.0	
3.820	-13.9	H	3.0	36.7	1.0	-49.6	-13.0	-36.6	
7.070	-8.2	H	3.0	36.5	1.0	-43.7	-13.0	-30.7	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

EGPRS (PCS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/21/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, EGPRS 1900							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber B		T144 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, (1850.2MHz)									
3.700	-7.4	V	3.0	36.8	1.0	-43.2	-13.0	-30.2	
5.555	-4.7	V	3.0	36.3	1.0	-40.0	-13.0	-27.0	
3.700	-6.9	H	3.0	36.8	1.0	-42.7	-13.0	-29.7	
5.555	-4.3	H	3.0	36.3	1.0	-39.5	-13.0	-26.5	
Mid Ch, (1880MHz)									
3.760	-6.2	V	3.0	36.8	1.0	-41.9	-13.0	-28.9	
5.640	-5.2	V	3.0	36.3	1.0	-40.5	-13.0	-27.5	
3.760	-6.8	H	3.0	36.8	1.0	-42.6	-13.0	-29.6	
5.640	-4.1	H	3.0	36.3	1.0	-39.4	-13.0	-26.4	
High Ch, (1909.8MHz)									
3.820	-7.6	V	3.0	36.7	1.0	-43.3	-13.0	-30.3	
5.729	-4.3	V	3.0	36.3	1.0	-39.7	-13.0	-26.7	
3.820	-6.9	H	3.0	36.7	1.0	-42.6	-13.0	-29.6	
7.070	-1.1	H	3.0	36.5	1.0	-36.6	-13.0	-23.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA REL 99 (Cellular Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date: 01/29/2013		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, WCDMA, CELL Rel 99							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T145 8449B		Filter 1		Part 22			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (826.4MHz)									
1.654	-21.8	V	3.0	35.5	1.0	-56.4	-13.0	-43.4	
2.475	-17.9	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
1.654	-20.2	H	3.0	35.5	1.0	-54.8	-13.0	-41.8	
2.475	-19.4	H	3.0	35.4	1.0	-53.8	-13.0	-40.8	
Mid Ch, (836MHz)									
1.672	-20.8	V	3.0	35.5	1.0	-55.3	-13.0	-42.3	
2.504	-17.7	V	3.0	35.4	1.0	-52.1	-13.0	-39.1	
1.672	-21.3	H	3.0	35.5	1.0	-55.9	-13.0	-42.9	
2.504	-19.5	H	3.0	35.4	1.0	-53.9	-13.0	-40.9	
High Ch, (846 MHz)									
1.693	-21.4	V	3.0	35.5	1.0	-55.9	-13.0	-42.9	
2.540	-17.2	V	3.0	35.4	1.0	-51.6	-13.0	-38.6	
1.693	-21.5	H	3.0	35.5	1.0	-56.1	-13.0	-43.1	
2.540	-19.6	H	3.0	35.4	1.0	-54.0	-13.0	-41.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA HSDPA (Cellular Band)

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/22/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		Tx, WCDMA, HSDPA							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber A		T145 8449B		Filter 1		Part 22			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (826.4MHz)									
1.654	-14.7	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
2.479	-13.0	V	3.0	35.4	1.0	-47.5	-13.0	-34.5	
1.654	-6.0	H	3.0	35.5	1.0	-40.5	-13.0	-27.5	
2.479	-13.6	H	3.0	35.4	1.0	-48.0	-13.0	-35.0	
Mid Ch, (836MHz)									
1.672	-14.8	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
2.508	-12.1	V	3.0	35.4	1.0	-46.5	-13.0	-33.5	
1.672	-8.9	H	3.0	35.5	1.0	-43.5	-13.0	-30.5	
2.508	-10.8	H	3.0	35.4	1.0	-45.2	-13.0	-32.2	
High Ch, (846.MHz)									
1.693	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
2.540	-12.3	V	3.0	35.4	1.0	-46.7	-13.0	-33.7	
1.693	-6.1	H	3.0	35.5	1.0	-40.6	-13.0	-27.6	
2.540	-12.9	H	3.0	35.4	1.0	-47.3	-13.0	-34.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA REL 99 (PCS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		WCDMA,PCS Rel 99							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T145 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)									
3.704	-13.7	V	3.0	35.4	1.0	-48.0	-13.0	-35.0	
7.408	-9.5	V	3.0	35.7	1.0	-44.2	-13.0	-31.2	
3.705	-13.8	H	3.0	35.4	1.0	-48.2	-13.0	-35.2	
7.410	-7.5	H	3.0	35.7	1.0	-42.2	-13.0	-29.2	
Mid Ch, (1880MHz)									
3.760	-14.3	V	3.0	35.3	1.0	-48.7	-13.0	-35.7	
7.520	-9.8	V	3.0	35.7	1.0	-44.5	-13.0	-31.5	
3.760	-13.6	H	3.0	35.3	1.0	-47.9	-13.0	-34.9	
7.520	-7.7	H	3.0	35.7	1.0	-42.4	-13.0	-29.4	
High Ch, (1907.6MHz)									
3.815	-13.8	V	3.0	35.3	1.0	-48.1	-13.0	-35.1	
7.630	-10.1	V	3.0	35.7	1.0	-44.8	-13.0	-31.8	
3.815	-13.0	H	3.0	35.3	1.0	-47.3	-13.0	-34.3	
7.630	-8.0	H	3.0	35.7	1.0	-42.7	-13.0	-29.7	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA HSDPA (PCS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/22/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		WCDMA,PCS HSDPA							
Chamber		Pre-amplifier		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)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1852.4MHz)									
3.704	-7.2	V	3.0	35.4	1.0	-41.6	-13.0	-28.6	
7.408	-2.7	V	3.0	35.7	1.0	-37.4	-13.0	-24.4	
3.705	-6.5	H	3.0	35.4	1.0	-40.8	-13.0	-27.8	
7.410	-1.3	H	3.0	35.7	1.0	-36.1	-13.0	-23.1	
Mid Ch, (1880MHz)									
3.760	-7.4	V	3.0	35.3	1.0	-41.7	-13.0	-28.7	
7.520	-2.4	V	3.0	35.7	1.0	-37.1	-13.0	-24.1	
3.760	-7.6	H	3.0	35.3	1.0	-42.0	-13.0	-29.0	
7.520	-1.5	H	3.0	35.7	1.0	-36.2	-13.0	-23.2	
High Ch, (1907.6MHz)									
3.815	-7.3	V	3.0	35.3	1.0	-41.6	-13.0	-28.6	
7.630	-3.1	V	3.0	35.7	1.0	-37.8	-13.0	-24.8	
3.815	-6.4	H	3.0	35.3	1.0	-40.7	-13.0	-27.7	
7.630	-2.3	H	3.0	35.7	1.0	-37.0	-13.0	-24.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA 1700 Rel 99 (AWS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		WCDMA, AWS, 1700 Rel 99							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.4MHz)									
3.424	-14.2	V	3.0	35.5	1.0	-48.7	-13.0	-35.7	
5.137	-11.9	V	3.0	35.3	1.0	-46.2	-13.0	-33.2	
3.425	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
5.137	-12.2	H	3.0	35.3	1.0	-46.5	-13.0	-33.5	
Mid Ch, (1732.6MHz)									
3.465	-14.6	V	3.0	35.5	1.0	-49.1	-13.0	-36.1	
5.198	-12.0	V	3.0	35.3	1.0	-46.3	-13.0	-33.3	
3.465	-14.1	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
5.198	-12.1	H	3.0	35.3	1.0	-46.4	-13.0	-33.4	
High Ch, (1752.5MHz)									
3.505	-14.9	V	3.0	35.4	1.0	-49.3	-13.0	-36.3	
5.258	-10.9	V	3.0	35.3	1.0	-45.3	-13.0	-32.3	
3.505	-14.7	H	3.0	35.4	1.0	-49.2	-13.0	-36.2	
5.258	-12.2	H	3.0	35.3	1.0	-46.5	-13.0	-33.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

WCDMA 1700 HSDPA (AWS Band)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/22/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		WCDMA, AWS, 1700 HSDPA							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber A		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.4MHz)									
3.424	-7.3	V	3.0	35.5	1.0	-41.7	-13.0	-28.7	
5.137	-5.5	V	3.0	35.3	1.0	-39.8	-13.0	-26.8	
3.425	-7.2	H	3.0	35.5	1.0	-41.7	-13.0	-28.7	
5.137	-5.7	H	3.0	35.3	1.0	-40.0	-13.0	-27.0	
Mid Ch, (1732.6MHz)									
3.465	-7.9	V	3.0	35.5	1.0	-42.4	-13.0	-29.4	
5.198	-6.6	V	3.0	35.3	1.0	-40.9	-13.0	-27.9	
3.465	-7.0	H	3.0	35.5	1.0	-41.4	-13.0	-28.4	
5.198	-5.3	H	3.0	35.3	1.0	-39.6	-13.0	-26.6	
High Ch, (1752.5MHz)									
3.505	-8.1	V	3.0	35.4	1.0	-42.6	-13.0	-29.6	
5.258	-6.3	V	3.0	35.3	1.0	-40.7	-13.0	-27.7	
3.505	-8.7	H	3.0	35.4	1.0	-43.1	-13.0	-30.1	
5.258	-6.3	H	3.0	35.3	1.0	-40.6	-13.0	-27.6	
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 #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 2 5.0MHz BW, QPSK							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 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, (1852.5MHz)									
3.705	-17.1	V	3.0	35.4	1.0	-51.4	-13.0	-38.4	
5.558	-13.8	V	3.0	35.4	1.0	-48.2	-13.0	-35.2	
3.705	-16.2	H	3.0	35.4	1.0	-50.5	-13.0	-37.5	
5.558	-12.6	H	3.0	35.4	1.0	-47.0	-13.0	-34.0	
Mid Ch, (1880MHz)									
3.760	-16.4	V	3.0	35.3	1.0	-50.8	-13.0	-37.8	
5.640	-14.8	V	3.0	35.4	1.0	-49.2	-13.0	-36.2	
3.760	-61.6	H	3.0	35.3	1.0	-95.9	-13.0	-82.9	
5.640	-12.4	H	3.0	35.4	1.0	-46.9	-13.0	-33.9	
High Ch, (1907.5MHz)									
3.815	-15.7	V	3.0	35.3	1.0	-50.0	-13.0	-37.0	
5.723	-14.0	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
3.815	-15.9	H	3.0	35.3	1.0	-50.2	-13.0	-37.2	
5.723	-12.2	H	3.0	35.4	1.0	-46.6	-13.0	-33.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 2, 16QAM (5 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/18/13									
Test Engineer: Kiya Kedida									
Configuration: EUT only									
Mode: TX, LTE Band 2 5.0MHz BW, 16QAM									
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 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, (1852.5MHz)									
3.705	-17.7	V	3.0	35.4	1.0	-52.0	-13.0	-39.0	
5.558	-14.3	V	3.0	35.4	1.0	-48.7	-13.0	-35.7	
3.705	-16.8	H	3.0	35.4	1.0	-51.1	-13.0	-38.1	
5.558	-12.9	H	3.0	35.4	1.0	-47.3	-13.0	-34.3	
Mid Ch, (1880MHz)									
3.760	-16.4	V	3.0	35.3	1.0	-50.8	-13.0	-37.8	
5.640	-14.1	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
3.760	-60.2	H	3.0	35.3	1.0	-94.5	-13.0	-81.5	
5.640	-11.6	H	3.0	35.4	1.0	-46.1	-13.0	-33.1	
High Ch, (1907.5MHz)									
3.815	-16.1	V	3.0	35.3	1.0	-50.4	-13.0	-37.4	
5.723	-12.0	V	3.0	35.4	1.0	-46.5	-13.0	-33.5	
3.815	-14.0	H	3.0	35.3	1.0	-48.3	-13.0	-35.3	
5.723	-10.1	H	3.0	35.4	1.0	-44.5	-13.0	-31.5	
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 #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 2 10.0MHz BW, QPSK							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 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, (1855.0MHz)									
3.710	-15.6	V	3.0	35.4	1.0	-49.9	-13.0	-36.9	
5.565	-14.5	V	3.0	35.4	1.0	-48.9	-13.0	-35.9	
3.710	-16.3	H	3.0	35.4	1.0	-50.7	-13.0	-37.7	
5.565	-12.3	H	3.0	35.4	1.0	-46.7	-13.0	-33.7	
Mid Ch, (1880MHz)									
3.760	-15.9	V	3.0	35.3	1.0	-50.3	-13.0	-37.3	
5.640	-13.9	V	3.0	35.4	1.0	-48.3	-13.0	-35.3	
3.760	-61.4	H	3.0	35.3	1.0	-95.7	-13.0	-82.7	
5.640	-12.5	H	3.0	35.4	1.0	-47.0	-13.0	-34.0	
High Ch, (1905MHz)									
3.810	-15.7	V	3.0	35.3	1.0	-50.0	-13.0	-37.0	
5.715	-11.9	V	3.0	35.4	1.0	-46.4	-13.0	-33.4	
3.821	-15.8	H	3.0	35.3	1.0	-50.1	-13.0	-37.1	
5.715	-12.3	H	3.0	35.4	1.0	-46.8	-13.0	-33.8	
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 #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 2 10.0MHz BW, 16QAM							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 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, (1855.0MHz)									
3.710	-16.9	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
5.565	-14.3	V	3.0	35.4	1.0	-48.7	-13.0	-35.7	
3.710	-14.2	H	3.0	35.4	1.0	-48.6	-13.0	-35.6	
5.565	-12.3	H	3.0	35.4	1.0	-46.7	-13.0	-33.7	
Mid Ch, (1880MHz)									
3.760	-16.4	V	3.0	35.3	1.0	-50.8	-13.0	-37.8	
5.640	-14.5	V	3.0	35.4	1.0	-48.9	-13.0	-35.9	
3.760	-61.8	H	3.0	35.3	1.0	-96.1	-13.0	-83.1	
5.640	-13.1	H	3.0	35.4	1.0	-47.6	-13.0	-34.6	
High Ch, (1905MHz)									
3.810	-16.2	V	3.0	35.3	1.0	-50.5	-13.0	-37.5	
5.715	-11.2	V	3.0	35.4	1.0	-45.7	-13.0	-32.7	
3.821	-15.2	H	3.0	35.3	1.0	-49.5	-13.0	-36.5	
5.715	-11.5	H	3.0	35.4	1.0	-46.0	-13.0	-33.0	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, QPSK (5 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 4 5MHz BW, QPSK							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber B		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.5MHz)									
3.425	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	
5.138	-14.8	V	3.0	35.3	1.0	-49.1	-13.0	-36.1	
3.425	-18.5	H	3.0	35.5	1.0	-53.0	-13.0	-40.0	
5.138	-13.0	H	3.0	35.3	1.0	-47.3	-13.0	-34.3	
Mid Ch, (1732.5MHz)									
3.465	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
5.198	-14.8	V	3.0	35.3	1.0	-49.2	-13.0	-36.2	
3.465	-18.1	H	3.0	35.5	1.0	-52.5	-13.0	-39.5	
5.198	-15.1	H	3.0	35.3	1.0	-49.4	-13.0	-36.4	
High Ch, (1752.5MHz)									
3.505	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
5.258	-15.5	V	3.0	35.3	1.0	-49.9	-13.0	-36.9	
3.505	-18.2	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
5.258	-14.2	H	3.0	35.3	1.0	-48.5	-13.0	-35.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, 16QAM (5 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 4 5MHz BW, 16QAM							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1712.5MHz)									
3.425	-19.5	V	3.0	35.5	1.0	-54.0	-13.0	-41.0	
5.138	-15.7	V	3.0	35.3	1.0	-50.0	-13.0	-37.0	
3.425	-19.3	H	3.0	35.5	1.0	-53.8	-13.0	-40.8	
5.138	-14.0	H	3.0	35.3	1.0	-48.3	-13.0	-35.3	
Mid Ch, (1732.5MHz)									
3.465	-18.5	V	3.0	35.5	1.0	-53.0	-13.0	-40.0	
5.198	-15.6	V	3.0	35.3	1.0	-50.0	-13.0	-37.0	
3.465	-18.8	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
5.198	-15.7	H	3.0	35.3	1.0	-50.0	-13.0	-37.0	
High Ch, (1752.5MHz)									
3.505	-19.5	V	3.0	35.4	1.0	-53.9	-13.0	-40.9	
5.258	-16.3	V	3.0	35.3	1.0	-50.7	-13.0	-37.7	
3.505	-19.1	H	3.0	35.4	1.0	-53.6	-13.0	-40.6	
5.258	-15.0	H	3.0	35.3	1.0	-49.3	-13.0	-36.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, QPSK (10 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 4 10.0MHz BW, QPSK							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715.0MHz)									
3.430	-18.9	V	3.0	35.5	1.0	-53.4	-13.0	-40.4	
5.145	-14.3	V	3.0	35.3	1.0	-48.7	-13.0	-35.7	
3.430	-18.8	H	3.0	35.5	1.0	-53.3	-13.0	-40.3	
5.145	-12.6	H	3.0	35.3	1.0	-47.0	-13.0	-34.0	
Mid Ch, (1732.5MHz)									
3.465	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
5.198	-14.7	V	3.0	35.3	1.0	-49.1	-13.0	-36.1	
3.465	-17.8	H	3.0	35.5	1.0	-52.2	-13.0	-39.2	
5.198	-14.9	H	3.0	35.3	1.0	-49.2	-13.0	-36.2	
High Ch, (1750MHz)									
3.500	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
5.250	-15.4	V	3.0	35.3	1.0	-49.7	-13.0	-36.7	
3.500	-18.1	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
5.250	-14.0	H	3.0	35.3	1.0	-48.3	-13.0	-35.3	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, 16QAM (10 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/18/13									
Test Engineer: Kiya Kedida									
Configuration: EUT only									
Mode: TX, LTE Band 4 10.0MHz BW, 16QAM									
<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Chamber</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Pre-amplifier</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Filter</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Limit</div>			
<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">3m Chamber D ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">T145 8449B ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Filter 1 ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Part 27 ▼</div>			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715.0MHz)									
3.430	-19.8	V	3.0	35.5	1.0	-54.3	-13.0	-41.3	
5.145	-15.2	V	3.0	35.3	1.0	-49.6	-13.0	-36.6	
3.430	-19.7	H	3.0	35.5	1.0	-54.2	-13.0	-41.2	
5.145	-13.4	H	3.0	35.3	1.0	-47.8	-13.0	-34.8	
Mid Ch, (1732.5MHz)									
3.465	-18.7	V	3.0	35.5	1.0	-53.2	-13.0	-40.2	
5.198	-15.4	V	3.0	35.3	1.0	-49.8	-13.0	-36.8	
3.465	-18.5	H	3.0	35.5	1.0	-52.9	-13.0	-39.9	
5.198	-15.7	H	3.0	35.3	1.0	-50.0	-13.0	-37.0	
High Ch, (1750MHz)									
3.500	-19.4	V	3.0	35.4	1.0	-53.8	-13.0	-40.8	
5.250	-16.4	V	3.0	35.3	1.0	-50.7	-13.0	-37.7	
3.500	-19.0	H	3.0	35.4	1.0	-53.4	-13.0	-40.4	
5.250	-14.9	H	3.0	35.3	1.0	-49.2	-13.0	-36.2	
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 #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 4 15.0MHz BW, QPSK							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1717.5MHz)									
3.435	-18.3	V	3.0	35.5	1.0	-52.8	-13.0	-39.8	
5.153	-14.3	V	3.0	35.3	1.0	-48.7	-13.0	-35.7	
3.435	-17.7	H	3.0	35.5	1.0	-52.2	-13.0	-39.2	
5.153	-14.0	H	3.0	35.3	1.0	-48.3	-13.0	-35.3	
Mid Ch, (1732.5MHz)									
3.465	-17.9	V	3.0	35.5	1.0	-52.4	-13.0	-39.4	
5.198	-14.9	V	3.0	35.3	1.0	-49.3	-13.0	-36.3	
3.465	-18.3	H	3.0	35.5	1.0	-52.7	-13.0	-39.7	
5.198	-14.2	H	3.0	35.3	1.0	-48.5	-13.0	-35.5	
High Ch, (1747.5MHz)									
3.495	-17.9	V	3.0	35.5	1.0	-52.3	-13.0	-39.3	
5.243	-15.3	V	3.0	35.3	1.0	-49.6	-13.0	-36.6	
3.495	-18.2	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
5.243	-14.7	H	3.0	35.3	1.0	-49.1	-13.0	-36.1	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, 16QAM (15MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/18/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT only							
Mode:		TX, LTE Band 4 15.0MHz BW, 16-QAM							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber D		T145 8449B		Filter 1		Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715.0MHz)									
3.430	-19.2	V	3.0	35.5	1.0	-53.7	-13.0	-40.7	
5.145	-15.3	V	3.0	35.3	1.0	-49.7	-13.0	-36.7	
3.430	-18.7	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
5.145	-14.9	H	3.0	35.3	1.0	-49.3	-13.0	-36.3	
Mid Ch, (1732.5MHz)									
3.465	-18.7	V	3.0	35.5	1.0	-53.2	-13.0	-40.2	
5.198	-15.8	V	3.0	35.3	1.0	-50.2	-13.0	-37.2	
3.465	-19.2	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
5.198	-15.1	H	3.0	35.3	1.0	-49.4	-13.0	-36.4	
High Ch, (1750MHz)									
3.500	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
5.250	-16.2	V	3.0	35.3	1.0	-50.5	-13.0	-37.5	
3.500	-19.2	H	3.0	35.4	1.0	-53.6	-13.0	-40.6	
5.250	-15.6	H	3.0	35.3	1.0	-49.9	-13.0	-36.9	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4, QPSK (20 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/18/13									
Test Engineer: Kiya Kedida									
Configuration: EUT only									
Mode: TX, LTE Band 4 20.0MHz BW, QPSK									
<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Chamber</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Pre-amplifier</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Filter</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid #009688; display: inline-block;">Limit</div>			
<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">3m Chamber D ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">T145 8449B ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Filter 1 ▼</div>		<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Part 27 ▼</div>			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1720MHz)									
3.440	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
5.160	-14.9	V	3.0	35.3	1.0	-49.2	-13.0	-36.2	
3.440	-18.5	H	3.0	35.5	1.0	-52.9	-13.0	-39.9	
5.160	-13.3	H	3.0	35.3	1.0	-47.6	-13.0	-34.6	
Mid Ch, (1732.5MHz)									
3.465	-17.8	V	3.0	35.5	1.0	-52.3	-13.0	-39.3	
5.198	-15.2	V	3.0	35.3	1.0	-49.6	-13.0	-36.6	
3.465	-18.2	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
5.198	-15.0	H	3.0	35.3	1.0	-49.3	-13.0	-36.3	
High Ch, (1745MHz)									
3.490	-17.8	V	3.0	35.5	1.0	-52.2	-13.0	-39.2	
5.235	-15.7	V	3.0	35.3	1.0	-50.0	-13.0	-37.0	
3.490	-18.2	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
5.235	-14.3	H	3.0	35.3	1.0	-48.7	-13.0	-35.7	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 4, 16QAM (20MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/18/13									
Test Engineer: Kiya Kedida									
Configuration: EUT only									
Mode: TX, LTE Band 4 20.0MHz BW, 16-QAM									
<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid black; display: inline-block;">Chamber</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid black; display: inline-block;">Pre-amplifier</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid black; display: inline-block;">Filter</div>		<div style="background-color: #e0f7fa; padding: 2px; border: 1px solid black; display: inline-block;">Limit</div>			
<div style="border: 1px solid black; padding: 2px; display: inline-block;">3m Chamber D ▼</div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">T145 8449B ▼</div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter 1 ▼</div>		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Part 27 ▼</div>			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1715.0MHz)									
3.430	-18.0	V	3.0	35.5	1.0	-52.5	-13.0	-39.5	
5.145	-15.7	V	3.0	35.3	1.0	-50.1	-13.0	-37.1	
3.430	-19.4	H	3.0	35.5	1.0	-53.9	-13.0	-40.9	
5.145	-14.2	H	3.0	35.3	1.0	-48.6	-13.0	-35.6	
Mid Ch, (1732.5MHz)									
3.465	-18.7	V	3.0	35.5	1.0	-53.2	-13.0	-40.2	
5.198	-16.2	V	3.0	35.3	1.0	-50.6	-13.0	-37.6	
3.465	-19.1	H	3.0	35.5	1.0	-53.5	-13.0	-40.5	
5.198	-15.9	H	3.0	35.3	1.0	-50.2	-13.0	-37.2	
High Ch, (1750MHz)									
3.500	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
5.250	-16.7	V	3.0	35.3	1.0	-51.0	-13.0	-38.0	
3.500	-19.1	H	3.0	35.4	1.0	-53.5	-13.0	-40.5	
5.250	-15.2	H	3.0	35.3	1.0	-49.5	-13.0	-36.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 17, QPSK (5.0 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/19/13									
Test Engineer: Kiya Kedida									
Configuration: EUT with AC adapter and headset									
Mode: LTE Band 17, 5MHz QPSK									
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Chamber</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Pre-amplifier</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Filter</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Limit</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">3m Chamber F</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">T145 8449B</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">Filter 1</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">Part 27</div> </div>									
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (706.5MHz)									
1.413	-28.9	V	3.0	35.8	1.0	-63.7	-13.0	-50.7	
2.119	-20.0	V	3.0	35.4	1.0	-54.4	-13.0	-41.4	
1.413	-26.8	H	3.0	35.8	1.0	-61.5	-13.0	-48.5	
2.119	-21.3	H	3.0	35.4	1.0	-55.7	-13.0	-42.7	
Mid Ch, (710MHz)									
1.420	-28.2	V	3.0	35.7	1.0	-62.9	-13.0	-49.9	
2.130	-16.9	V	3.0	35.4	1.0	-51.3	-13.0	-38.3	
1.420	-25.0	H	3.0	35.7	1.0	-59.8	-13.0	-46.8	
2.130	-20.2	H	3.0	35.4	1.0	-54.6	-13.0	-41.6	
High Ch, (713.5MHz)									
1.427	-27.5	V	3.0	35.7	1.0	-62.2	-13.0	-49.2	
2.141	-18.8	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
1.427	-23.1	H	3.0	35.7	1.0	-57.8	-13.0	-44.8	
2.141	-21.2	H	3.0	35.4	1.0	-55.5	-13.0	-42.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 17, 16QAM (5.0 MHz BANDWIDTH)

Compliance Certification Services									
Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		LTE Band 17, 5MHz 16QAM							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T145 8449B		Filter 1		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 Ch, (706.5MHz)									
1.413	-30.8	V	3.0	35.8	1.0	-65.6	-13.0	-52.6	
2.119	-21.8	V	3.0	35.4	1.0	-56.2	-13.0	-43.2	
1.413	-28.5	H	3.0	35.8	1.0	-63.2	-13.0	-50.2	
2.119	-23.3	H	3.0	35.4	1.0	-57.7	-13.0	-44.7	
Mid Ch, (710MHz)									
1.420	-30.1	V	3.0	35.7	1.0	-64.8	-13.0	-51.8	
2.130	-19.8	V	3.0	35.4	1.0	-54.2	-13.0	-41.2	
1.420	-27.9	H	3.0	35.7	1.0	-62.7	-13.0	-49.7	
2.130	-22.4	H	3.0	35.4	1.0	-56.8	-13.0	-43.8	
High Ch, (713.5MHz)									
1.427	-29.3	V	3.0	35.7	1.0	-64.0	-13.0	-51.0	
2.141	-21.3	V	3.0	35.4	1.0	-55.6	-13.0	-42.6	
1.427	-25.8	H	3.0	35.7	1.0	-60.5	-13.0	-47.5	
2.141	-23.3	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 17, QPSK (10.0 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		13U15216							
Date:		06/19/13							
Test Engineer:		Kiya Kedida							
Configuration:		EUT with AC adapter and headset							
Mode:		LTE Band 17, 5MHz 16QAM							
Chamber		Pre-amplifier		Filter		Limit			
3m Chamber F		T145 8449B		Filter 1		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 Ch, (706.5MHz)									
1.413	-30.8	V	3.0	35.8	1.0	-65.6	-13.0	-52.6	
2.119	-21.8	V	3.0	35.4	1.0	-56.2	-13.0	-43.2	
1.413	-28.5	H	3.0	35.8	1.0	-63.2	-13.0	-50.2	
2.119	-23.3	H	3.0	35.4	1.0	-57.7	-13.0	-44.7	
Mid Ch, (710MHz)									
1.420	-30.1	V	3.0	35.7	1.0	-64.8	-13.0	-51.8	
2.130	-19.8	V	3.0	35.4	1.0	-54.2	-13.0	-41.2	
1.420	-27.9	H	3.0	35.7	1.0	-62.7	-13.0	-49.7	
2.130	-22.4	H	3.0	35.4	1.0	-56.8	-13.0	-43.8	
High Ch, (713.5MHz)									
1.427	-29.3	V	3.0	35.7	1.0	-64.0	-13.0	-51.0	
2.141	-21.3	V	3.0	35.4	1.0	-55.6	-13.0	-42.6	
1.427	-25.8	H	3.0	35.7	1.0	-60.5	-13.0	-47.5	
2.141	-23.3	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 17, 16QAM (10.0 MHz BANDWIDTH)

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement									
Company: LG									
Project #: 13U15216									
Date: 06/19/13									
Test Engineer: Kiya Kedida									
Configuration: EUT with AC adapter and headset									
Mode: LTE Band 17, 10MHz 16QAM									
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Chamber</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Pre-amplifier</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Filter</div> <div style="border: 1px solid black; padding: 5px; background-color: #e0f7fa;">Limit</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">3m Chamber F ▼</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">T145 8449B ▼</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">Filter 1 ▼</div> <div style="border: 1px solid black; padding: 5px; background-color: #fff9c4;">Part 27 ▼</div> </div>									
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (709MHz)									
1.418	-29.7	V	3.0	35.7	1.0	-64.4	-13.0	-51.4	
2.127	-21.1	V	3.0	35.4	1.0	-55.5	-13.0	-42.5	
1.418	-29.0	H	3.0	35.7	1.0	-63.8	-13.0	-50.8	
2.127	-22.3	H	3.0	35.4	1.0	-56.7	-13.0	-43.7	
Mid Ch, (710MHz)									
1.420	-28.3	V	3.0	35.7	1.0	-63.0	-13.0	-50.0	
2.130	-22.0	V	3.0	35.4	1.0	-56.4	-13.0	-43.4	
1.420	-29.1	H	3.0	35.7	1.0	-63.9	-13.0	-50.9	
2.130	-22.7	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
High Ch, (711MHz)									
1.422	-30.1	V	3.0	35.7	1.0	-64.8	-13.0	-51.8	
2.133	-21.9	V	3.0	35.4	1.0	-56.3	-13.0	-43.3	
1.422	-26.3	H	3.0	35.7	1.0	-61.0	-13.0	-48.0	
2.133	-22.8	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									