FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART F
FCC CFR47 PART 27 SUBPART H
FCC CFR47 PART 27 SUBPART L
FCC CFR47 PART 27 SUBPART M
FCC CFR47 PART 90 SUBPART S

C2PC CERTIFICATION TEST REPORT

FOR

GSM/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC

MODEL NUMBER: LG-LS991, LS991, LGLS991, LGAS991, AS991, LG-AS991

FCC ID: ZNFLS991

REPORT NUMBER: 15I20514-E1 REVISION A

ISSUE DATE: MAY 5, 2015

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	05/04/15	Initial Issue	D. Coronia
A	05/05/15	Added Additional Model Names on Header, Page 1, and Page 5	J. Ko

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION: GSM/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with DTS/UNII a/b/g/n/ac & NFC
MODEL: LG-LS991, LS991, LGLS991, LGAS991, AS991, LG-AS991
SERIAL NUMBER: 1W43T (radiated)
DATE TESTED: APRIL 15- 28, 2015

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22H, 24E. 27F, 27H, 27L, 27M, and 90S	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.

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UL VERIFICATION SERVICES INC

Tested By:

STEVEN TRAN
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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, and FCC CFR 47 Part 90.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☒ Chamber F(IC: 2324B-6)
	☒ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

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

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 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/CDMA/WCDMA/LTE PHONE + BLUETOOTH, with 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 22/24						
Band	Frequency Range(MHz)	Modulation mW	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
GSM850	824~849	GMSK	33.2	2089.30		
	824~849	GPRS	33.2	2089.30	30.2	1047.13
	824~849	EGPRS	27.7	588.84	24.8	301.99
GSM1900	1850~1910	GMSK	29.4	870.96		
	1850~1910	GPRS	29.4	870.96	30.80	1202.26
	1850~1910	EGPRS	26.7	467.74	28.90	776.25
Band 5	824~849	REL99	23.70	234.42	21.89	154.56
	824~849	HSDPA	23.70	234.42	21.58	143.91
	824~849	HSUPA	23.80	239.88		
Band 2	1850~1910	REL99	23.70	234.42	25.10	323.59
	1850~1910	HSDPA	23.70	234.42	24.70	295.12
	1850~1910	HSUPA	23.70	234.42		
BC10	816~824	1xRTT	25.20	331.13	21.55	142.92
	816~824	EVDO REL. 0	25.10	323.59	21.64	145.88
	816~824	EVDO REV. A	25.00	316.23		
BC0	824~849	1xRTT	25.20	331.13	21.96	157.07
	824~849	EVDO REL. 0	25.00	316.23	21.69	147.57
	824~849	EVDO REV. A	24.90	309.03		
BC1	1850~1910	1xRTT	24.90	309.03	24.75	473.15
	1850~1910	EVDO REL. 0	24.90	309.03	23.65	462.38
	1850~1910	EVDO REV. A	24.90	309.03		

5.3. MAXIMUM OUTPUT POWER (LTE)

LTE Band 2

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE2	1850~1910	20MHz	QPSK	23.70	234.42	25.40	346.74
			16QAM	22.70	186.21	24.78	300.61
		15MHz	QPSK	23.60	229.09	25.30	338.84
			16QAM	22.20	165.96	24.70	295.12
		10MHz	QPSK	23.70	234.42	25.30	338.84
			16QAM	22.40	173.78	24.70	295.12
		5MHz	QPSK	23.70	234.42	25.50	354.81
			16QAM	22.50	177.83	24.80	302.00
		3MHz	QPSK	23.70	234.42	25.69	370.68
			16QAM	22.10	162.18	25.08	322.11
		1.4MHz	QPSK	23.70	234.42	25.87	386.37
			16QAM	22.30	169.82	25.10	323.59

LTE Band 4

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE4	1710~1755	20MHz	QPSK	23.70	234.42	22.12	162.93
			16QAM	22.70	186.21	21.42	138.68
		15MHz	QPSK	23.70	234.42	22.23	167.11
			16QAM	22.40	173.78	21.53	142.23
		10MHz	QPSK	23.70	234.42	22.14	163.68
			16QAM	22.60	181.97	21.44	139.32
		5MHz	QPSK	23.70	234.42	22.24	167.49
			16QAM	22.70	186.21	21.54	142.56
		3MHz	QPSK	23.70	234.42	22.25	167.88
			16QAM	22.30	169.82	21.55	142.89
		1.4MHz	QPSK	23.70	234.42	22.30	169.82
			16QAM	22.40	173.78	21.45	139.64

LTE Band 5

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	10MHz	QPSK	23.60	229.09	20.55	113.50
			16QAM	22.40	173.78	20.01	100.23
		5MHz	QPSK	23.60	229.09	20.45	110.92
			16QAM	22.60	181.97	19.62	91.62
		3MHz	QPSK	23.50	223.87	20.66	116.41
			16QAM	22.00	158.49	19.71	93.54
		1.4MHz	QPSK	23.50	223.87	21.30	134.90
			16QAM	22.20	165.96	19.72	93.76

LTE Band 12

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	10MHz	QPSK	23.40	218.78	16.68	46.56
			16QAM	22.00	158.49	15.50	35.48
		5MHz	QPSK	23.40	218.78	16.13	41.02
			16QAM	22.20	165.96	15.06	32.06
		3MHz	QPSK	23.40	218.78	15.60	36.31
			16QAM	21.70	147.91	14.87	30.69
		1.4MHz	QPSK	23.40	218.78	15.28	33.73
			16QAM	22.00	158.49	14.73	29.72

LTE Band 25

FCC Part 22/24/27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE25	1850~1915	20MHz	QPSK	23.70	234.42	25.40	346.74
			16QAM	22.70	186.21	24.78	300.61
		15MHz	QPSK	23.70	234.42	25.30	338.84
			16QAM	22.20	165.96	24.70	295.12
		10MHz	QPSK	23.70	234.42	25.30	338.84
			16QAM	22.50	177.83	24.70	295.12
		5MHz	QPSK	23.70	234.42	25.50	354.81
			16QAM	22.70	186.21	24.80	302.00
		3MHz	QPSK	23.70	234.42	25.69	370.68
			16QAM	22.40	173.78	25.08	322.11
		1.4MHz	QPSK	23.70	234.42	25.87	386.37
			16QAM	22.50	177.83	25.10	323.59

LTE Band 26 PART 90

FCC Part 90							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	814~824	10MHz	QPSK	23.60	229.09	20.55	113.50
			16QAM	22.30	169.82	19.30	85.11
		5MHz	QPSK	23.60	229.09	20.45	110.92
			16QAM	21.90	154.88	19.62	91.62
		3MHz	QPSK	23.60	229.09	20.66	116.41
			16QAM	22.20	165.96	19.71	93.54
		1.4MHz	QPSK	23.60	229.09	19.91	97.95
			16QAM	22.30	169.82	19.11	81.47

LTE Band 26 PART 22

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE26	824~849	15MHz	QPSK	23.60	229.09	20.54	113.24
			16QAM	22.10	162.18	19.47	88.51
		10MHz	QPSK	23.60	229.09	20.24	105.68
			16QAM	22.30	169.82	20.01	100.23
		5MHz	QPSK	23.60	229.09	20.21	104.95
			16QAM	22.30	169.82	19.31	85.31
		3MHz	QPSK	23.60	229.09	20.20	104.71
			16QAM	22.20	165.96	19.44	87.90
		1.4MHz	QPSK	23.60	229.09	21.30	134.90
			16QAM	22.30	169.82	19.72	93.76

LTE Band 41

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE41	2496~2690	20MHz	QPSK	23.70	234.42	25.41	347.54
			16QAM	22.50	177.83	25.11	324.34
		15MHz	QPSK	23.60	229.09	25.51	355.63
			16QAM	22.60	181.97	24.91	309.74
		10MHz	QPSK	23.70	234.42	25.81	381.07
			16QAM	22.50	177.83	25.16	328.10
		5MHz	QPSK	23.70	234.42	26.63	460.26
			16QAM	22.60	181.97	25.51	355.63

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)
GSM1900/CDMA BC1/WCDMA B2/LTE B2 1850~1910MHz	-3.5
GSM850/CDMA BC0/WCDMA B5/LTE B5 824~849MHz	-7.1
LTE B4 1710~1755MHz	-5.2
LTE B12 699~716MHz	-5.9
LTE25, 1850~1915MHz	-3.5
CDMA BC10/LTE B26 814~849MHz	-7.1
LTE B41 2496~2690MHz	1.7

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-04WD2	EAY62991904	N/A
Smart Case Cover	LG	LG-P1	DK0227	N/A
Wireless Charger	LG	WCD-110	LF1212625283010049	N/A
Earphone	LG	N/A	N/A	N/A

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

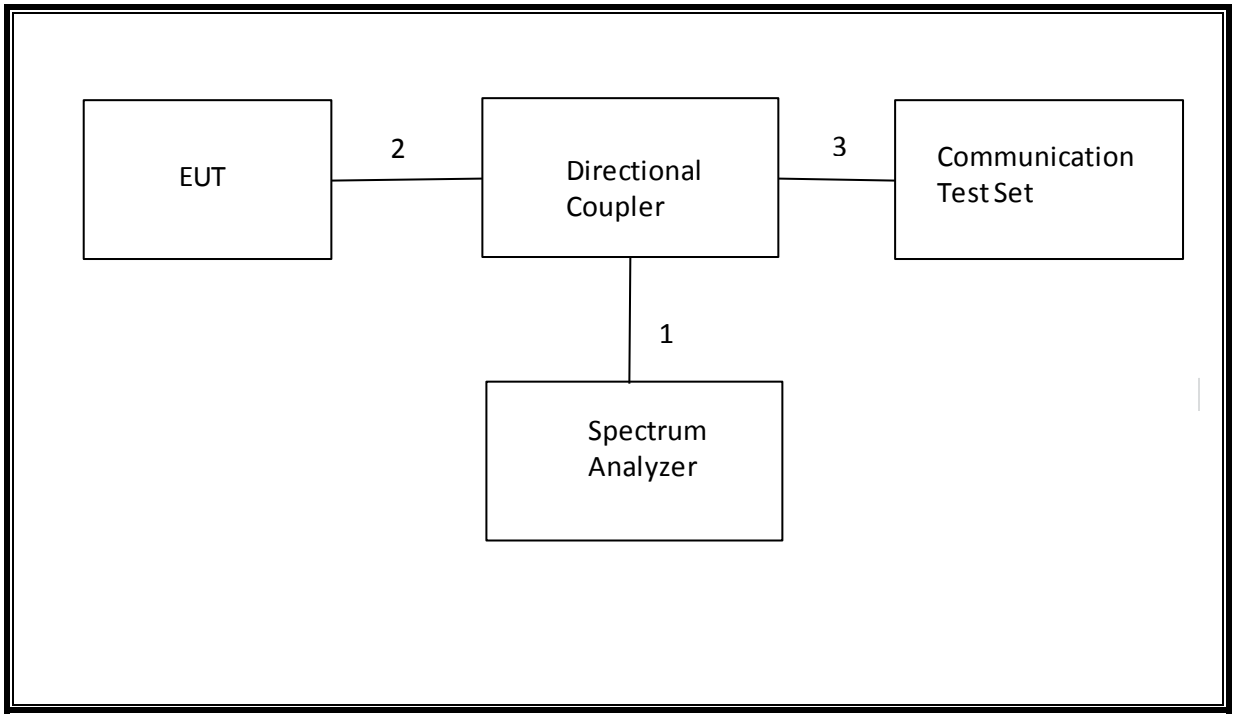
I/O CABLES (RADIATED SETUP)

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	NA
2	Jack	1	Headset	Shielded	1m	NA
3	RF In/out	1	Communication Test Set	Un-shielded	2m	NA

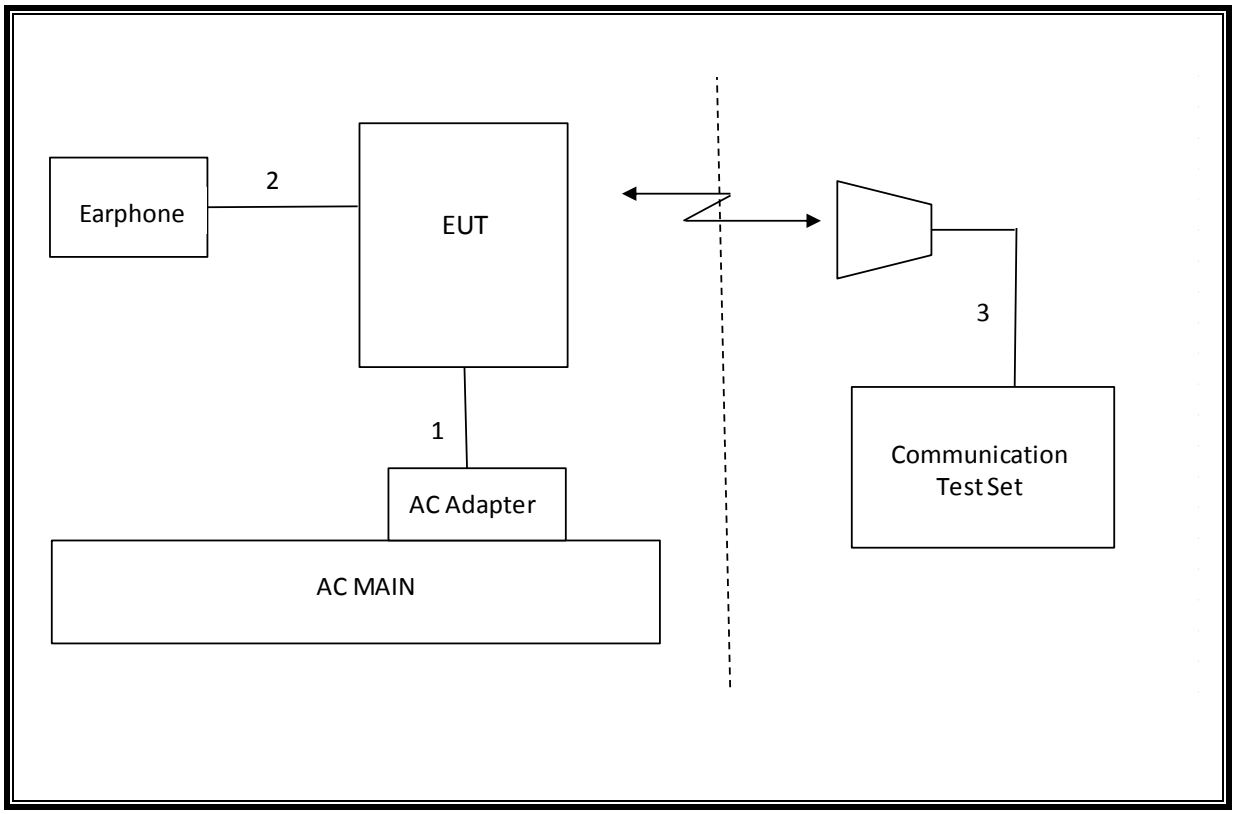
TEST SETUP

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)



5.6. DESCRIPTION OF TEST SETUP

Mode: LTE

PAR – Full RB is used for testing.

Occupied bandwidth- full RB is used for testing and 10.1.2 table column 4 shows the RB allocation.

Band edge- 1 RB and full RB are used for testing and test plot are provided in section 10.2.1

Out of Band Emission- 1 RB is used for testing

ERP/EIRP – 1RB is used for testing and table 11.1.2 column 4 shows the RB allocation

Spurious Emission- 1RB is used for testing.

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, 44 GHz	Agilent / HP	E4446A	123	10/28/15
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	T243	12/08/15
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 18 GHz	EMCO	3115	C00784	10/25/15
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	05/12/15
Communications Test Set	R&S	CMW500	T159	07/02/15
DC power supply, 8 V @ 3 A or 15 V	Agilent / HP	E3610A	None	CNR
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	06/18/15
Antenna, Tuned Dipole 400~1000	ETS	6502	158071	10/14/15
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00589	12/17/15

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. SUMMARY TABLE

C2PC reason: Please see LG FCC Class II cover letter for details**.**

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Note
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
27.53(m)	RSS-199(4.5)		-25dBm		Pass	See Original
2.1046	N/A	Conducted output power	N/A		Pass	See Original
27.53(m) 90.691	RSS-199(4.5)	Emission Mask			Pass	See Original
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass	See Original
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	30.80 dBm
27.50(c)(10)	N/A		34.77 dBm		Pass	16.68 dBm
90.635	N/A		50dBm		Pass	21.3 dBm
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	30.24 dBm
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass	22.25 dBm
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	-37 dBm
27.53(m)	RSS-199(4.5)		-25dBm		Pass	-45.8 dBm

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

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	128	824.2	33.2
			190	836.6	33.2
			251	848.8	33.2
GPRS (GMSK)	CS1	1	128	824.2	33.2
			190	836.6	33.2
			251	848.8	33.2
		2	128	824.2	31.5
			190	836.6	31.5
			251	848.8	31.1
EGPRS (8PSK)	MCS5	1	128	824.2	27.7
			190	836.6	27.7
			251	848.8	27.7
		2	128	824.2	27.7
			190	836.6	27.6
			251	848.8	27.6

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	512	1850.2	29.4
			661	1880.0	29.4
			810	1909.8	29.4
GPRS (GMSK)	CS1	1	512	1850.2	29.4
			661	1880.0	29.4
			810	1909.8	29.4
		2	512	1850.2	27.7
			661	1880.0	27.7
			810	1909.8	27.7
EGPRS (8PSK)	MCS5	1	512	1850.2	26.7
			661	1880.0	26.7
			810	1909.8	26.7
		2	512	1850.2	26.6
			661	1880.0	26.5
			810	1909.8	26.6

8.2. CDMA2000

8.2.1. 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)

8.2.2. CDMA2000 OUTPUT POWER RESULT

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC10	RC1, SO55 (Loopback)	476	817.90	25.2
		580	820.50	25.2
		684	823.10	25.2
	RC3, SO55 (Loopback)	476	817.90	25.2
		580	820.50	25.2
		684	823.10	25.2
	RC3, SO32 (+F-SCH)	476	817.90	25.2
		580	820.50	25.2
		684	823.10	25.2

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC0	RC1, SO55 (Loopback)	1013	824.70	25.2
		384	836.52	25.2
		777	848.31	25.2
	RC3, SO55 (Loopback)	1013	824.70	25.2
		384	836.52	25.2
		777	848.31	25.2
	RC3, SO32 (+F-SCH)	1013	824.70	25.2
		384	836.52	25.2
		777	848.31	25.2

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC1	RC1, SO55 (Loopback)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.9
	RC3, SO55 (Loopback)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.9
	RC3, SO32 (+F-SCH)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.9

8.2.3. 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)

8.2.4. 1XEVDO REL 0 OUTPUT POWER RESULT

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC10	307.2 kbps (2 slot, QPSK)	476	817.90	25.1
		580	820.50	25.1
		684	823.10	25.1

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2 kbps (2 slot, QPSK)	1013	824.70	25.0
		384	836.52	24.9
		777	848.31	24.9

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2 kbps (2 slot, QPSK)	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.9

8.2.5. 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)

8.2.6. 1xEVDO REV A OUTPUT RESULT

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC10	307.2k, QPSK/ ACK channel is transmitted at all the slots	476	817.90	25.0
		580	820.50	25.0
		684	823.10	25.0

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	24.9
		384	836.52	24.9
		777	848.31	24.8

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	24.9
		600	1880.00	24.9
		1175	1908.75	24.8

8.3. 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

8.3.1. UMTS REL 99 OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Rel 99 (RMC, 12.2 kbps)	4132	826.4	0	23.7
		4183	836.6	0	23.7
		4233	846.6	0	23.7

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	0	23.7
		9400	1880.0	0	23.7
		9538	1907.6	0	23.7

8.4. 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			

8.4.1. UMTS HSDPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0	23.7
		4183	836.6	0	23.7
		4233	846.6	0	23.7
	Subtest 2	4132	826.4	0	23.7
		4183	836.6	0	23.7
		4233	846.6	0	23.7
	Subtest 3	4132	826.4	0.5	23.3
		4183	836.6	0.5	23.3
		4233	846.6	0.5	23.2
	Subtest 4	4132	826.4	0.5	23.3
		4183	836.6	0.5	23.2
		4233	846.6	0.5	23.2

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	23.8
W-CDMA Band II	Subtest 1	9262	1852.4	0	23.7
		9400	1880.0	0	23.7
		9538	1907.6	0	23.7
	Subtest 2	9262	1852.4	0	23.7
		9400	1880.0	0	23.7
		9538	1907.6	0	23.7
	Subtest 3	9262	1852.4	0.5	22.4
		9400	1880.0	0.5	22.3
		9538	1907.6	0.5	22.6
	Subtest 4	9262	1852.4	0.5	21.8
		9400	1880.0	0.5	22.6
		9538	1907.6	0.5	21.8

8.5. 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.

8.5.1. UMTS HSUPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0	21.7
		4183	836.6	0	21.7
		4233	846.6	0	21.7
	Subtest 2	4132	826.4	2	21.7
		4183	836.6	2	21.7
		4233	846.6	2	21.7
	Subtest 3	4132	826.4	1	21.5
		4183	836.6	1	21.4
		4233	846.6	1	21.8
	Subtest 4	4132	826.4	2	21.7
		4183	836.6	2	21.7
		4233	846.6	2	21.7
	Subtest 5	4132	826.4	0	23.7
		4183	836.6	0	23.7
		4233	846.6	0	23.7

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Subtest 1	9262	1852.4	0	21.8
		9400	1880.0	0	21.8
		9538	1907.6	0	21.8
	Subtest 2	9262	1852.4	2	21.7
		9400	1880.0	2	21.7
		9538	1907.6	2	21.7
	Subtest 3	9262	1852.4	1	21.5
		9400	1880.0	1	21.0
		9538	1907.6	1	21.9
	Subtest 4	9262	1852.4	2	21.7
		9400	1880.0	2	21.7
		9538	1907.6	2	21.7
	Subtest 5	9262	1852.4	0	23.7
		9400	1880.0	0	23.7
		9538	1907.6	0	23.7

8.6. LTE OUTPUT VERIFICATION

8.6.1. LTE OUTPUT RESULT

LTE Band 2

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18700	18900	19100
						1860 MHz	1880 MHz	1900 MHz
LTE Band 2	20	QPSK	1	0	0	23.70	23.70	23.60
			1	49	0	23.70	23.70	23.50
			1	99	0	23.70	22.70	23.60
			50	0	1	22.70	22.70	22.60
			50	24	1	22.70	22.70	22.60
			50	50	1	22.70	22.60	22.60
			100	0	1	22.70	22.60	22.60
		16QAM	1	0	1	22.70	22.70	22.40
			1	49	1	22.70	22.60	22.10
			1	99	1	22.70	22.50	22.10
			50	0	2	21.70	21.70	21.60
			50	24	2	21.70	21.60	21.50
			50	50	2	21.70	21.60	21.50
			100	0	2	21.70	21.60	21.70
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18675	18900	19125
						1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2	15	QPSK	1	0	0	23.60	23.60	23.60
			1	37	0	23.40	23.50	23.60
			1	74	0	23.60	23.50	23.60
			36	0	1	22.70	22.70	22.50
			36	20	1	22.70	22.60	22.60
			36	39	1	22.70	22.60	22.60
			75	0	1	22.70	22.60	22.60
		16QAM	1	0	1	22.20	22.10	22.20
			1	37	1	22.10	22.00	22.00
			1	74	1	22.10	22.00	22.00
			36	0	2	21.70	21.70	21.50
			36	20	2	21.70	21.70	21.60
			36	39	2	21.70	21.70	21.60
			75	0	2	21.70	21.70	21.60

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18650	18900	19150
						1855 MHz	1880 MHz	1905 MHz
LTE Band 2	10	QPSK	1	0	0	23.70	23.70	23.70
			1	25	0	23.70	23.70	23.70
			1	49	0	23.70	23.70	23.50
			25	0	1	22.70	22.70	22.60
			25	12	1	22.70	22.70	22.60
			25	25	1	22.60	22.70	22.50
			50	0	1	22.70	22.70	22.60
		16QAM	1	0	1	22.40	22.30	22.00
			1	25	1	22.20	22.10	22.00
			1	49	1	22.20	22.20	21.80
			25	0	2	21.70	21.70	21.70
			25	12	2	21.70	21.70	21.70
			25	25	2	21.70	21.70	21.60
			50	0	2	21.70	21.70	21.60
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18625	18900	19175
						1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2	5	QPSK	1	0	0	23.70	23.70	23.60
			1	12	0	23.60	23.70	23.40
			1	24	0	23.70	23.70	23.50
			12	0	1	22.70	22.70	22.50
			12	7	1	22.70	22.70	22.60
			12	13	1	22.70	22.60	22.50
			25	0	1	22.70	22.60	22.50
		16QAM	1	0	1	22.00	22.00	22.50
			1	12	1	21.90	22.00	22.50
			1	24	1	21.90	22.00	22.40
			12	0	2	21.70	21.70	21.60
			12	7	2	21.70	21.70	21.60
			12	13	2	21.70	21.70	21.60
			25	0	2	21.70	21.70	21.50

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18615	18900	19185
						1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2	3	QPSK	1	0	0	23.70	23.60	23.70
			1	8	0	23.70	23.60	23.60
			1	14	0	23.70	23.60	23.70
			8	0	1	22.70	22.60	22.60
			8	4	1	22.70	22.70	22.50
			8	7	1	22.60	22.60	22.50
			15	0	1	22.70	22.60	22.50
		16QAM	1	0	1	22.10	22.00	21.90
			1	8	1	22.10	22.00	21.70
			1	14	1	22.10	22.10	21.90
			8	0	2	21.70	21.70	21.50
			8	4	2	21.70	21.70	21.50
			8	7	2	21.70	21.70	21.40
			15	0	2	21.70	21.70	21.40

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18607	18900	19193
						1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2	1.4	QPSK	1	0	0	23.70	23.70	23.60
			1	3	0	23.70	23.70	23.70
			1	5	0	23.70	23.70	23.70
			3	0	0	23.60	23.60	23.40
			3	1	0	23.60	23.60	23.70
			3	3	0	23.60	23.60	23.50
			6	0	1	22.60	22.60	22.50
		16QAM	1	0	1	22.10	21.90	21.70
			1	3	1	22.10	22.10	22.00
			1	5	1	22.10	22.00	21.70
			3	0	1	22.20	22.10	21.90
			3	1	1	22.30	22.20	22.00
			3	3	1	22.20	22.20	22.00
			6	0	2	21.70	21.70	21.60

LTE Band 4

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	23.70	23.70	23.70
			1	49	0	23.70	23.70	23.70
			1	99	0	23.70	23.70	23.60
			50	0	1	22.70	22.70	22.70
			50	24	1	22.70	22.60	22.70
			50	50	1	22.70	22.60	22.70
			100	0	1	22.70	22.70	22.70
		16QAM	1	0	1	22.70	22.70	22.70
			1	49	1	22.70	22.70	22.40
			1	99	1	22.70	22.70	22.30
			50	0	2	21.70	21.70	21.70
			50	24	2	21.70	21.60	21.60
			50	50	2	21.60	21.60	21.60
			100	0	2	21.70	21.70	21.70
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	23.70	23.70	23.70
			1	37	0	23.70	23.60	23.60
			1	74	0	23.60	23.60	23.50
			36	0	1	22.60	22.70	22.60
			36	20	1	22.60	22.60	22.60
			36	39	1	22.60	22.60	22.60
			75	0	1	22.60	22.60	22.60
		16QAM	1	0	1	22.20	22.40	22.30
			1	37	1	22.10	22.20	22.20
			1	74	1	22.10	22.10	22.00
			36	0	2	21.60	21.70	21.70
			36	20	2	21.70	21.60	21.70
			36	39	2	21.70	21.60	21.60
			75	0	2	21.70	21.60	21.70

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	23.70	23.70	23.70
			1	25	0	23.70	23.70	23.70
			1	49	0	23.70	23.70	23.60
			25	0	1	22.70	22.60	22.50
			25	12	1	22.60	22.60	22.50
			25	25	1	22.60	22.60	22.50
			50	0	1	22.60	22.60	22.50
		16QAM	1	0	1	22.60	22.60	22.30
			1	25	1	22.30	22.30	22.10
			1	49	1	22.30	22.30	22.10
			25	0	2	21.70	21.70	21.70
			25	12	2	21.70	21.70	21.70
			25	25	2	21.70	21.70	21.60
			50	0	2	21.70	21.70	21.60
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	23.70	23.70	23.60
			1	12	0	23.70	23.60	23.50
			1	24	0	23.70	23.70	23.50
			12	0	1	22.60	22.60	22.60
			12	7	1	22.60	22.60	22.50
			12	13	1	22.60	22.60	22.50
			25	0	1	22.60	22.60	22.50
		16QAM	1	0	1	22.10	22.10	22.70
			1	12	1	22.10	22.10	22.70
			1	24	1	22.00	22.10	22.70
			12	0	2	21.60	21.60	21.70
			12	7	2	21.60	21.70	21.60
			12	13	2	21.70	21.70	21.60
			25	0	2	21.70	21.70	21.50

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19965	20175	20385
						1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	3	QPSK	1	0	0	23.70	23.70	23.70
			1	8	0	23.70	23.70	23.70
			1	14	0	23.70	23.70	23.70
			8	0	1	22.60	22.60	22.50
			8	4	1	22.60	22.60	22.50
			8	7	1	22.60	22.60	22.50
			15	0	1	22.60	22.60	22.60
		16QAM	1	0	1	22.20	22.30	22.10
			1	8	1	22.30	22.30	22.00
			1	14	1	22.20	22.20	22.00
			8	0	2	21.60	21.60	21.50
			8	4	2	21.70	21.70	21.50
			8	7	2	21.70	21.60	21.50
			15	0	2	21.70	21.70	21.50
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19957	20175	20393
						1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0	23.70	23.70	23.70
			1	3	0	23.70	23.70	23.70
			1	5	0	23.70	23.70	23.70
			3	0	0	23.60	23.60	23.60
			3	1	0	23.70	23.70	23.70
			3	3	0	23.70	23.60	23.60
			6	0	1	22.50	22.60	22.70
		16QAM	1	0	1	22.10	22.10	22.00
			1	3	1	22.30	22.30	22.20
			1	5	1	22.20	22.20	22.00
			3	0	1	22.30	22.30	22.20
			3	1	1	22.40	22.40	22.20
			3	3	1	22.30	22.40	22.20
			6	0	2	21.70	21.70	21.70

LTE Band 5

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20450	20525	20600
						829 MHz	836.5 MHz	844 MHz
LTE Band 5	10	QPSK	1	0	0	23.60	23.60	23.50
			1	25	0	23.50	23.60	23.50
			1	49	0	23.50	23.40	23.40
			25	0	1	22.50	22.60	22.50
			25	12	1	22.50	22.60	22.50
			25	25	1	22.50	22.50	22.50
			50	0	1	22.50	22.50	22.50
		16QAM	1	0	1	22.30	22.50	22.10
			1	25	1	22.00	22.40	22.00
			1	49	1	22.20	22.30	21.80
			25	0	2	21.60	21.70	21.60
			25	12	2	21.60	21.60	21.60
			25	25	2	21.60	21.50	21.60
			50	0	2	21.70	21.50	21.60
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20425	20525	20625
						826.5 MHz	836.5 MHz	846.5 MHz
LTE Band 5	5	QPSK	1	0	0	23.60	23.60	23.50
			1	12	0	23.50	23.60	23.30
			1	24	0	23.50	23.50	23.40
			12	0	1	22.40	22.50	22.50
			12	7	1	22.50	22.50	22.60
			12	13	1	22.50	22.50	22.50
			25	0	1	22.40	22.40	22.50
		16QAM	1	0	1	21.70	21.80	22.60
			1	12	1	21.80	21.80	22.60
			1	24	1	21.70	21.80	22.50
			12	0	2	21.50	21.50	21.60
			12	7	2	21.60	21.50	21.60
			12	13	2	21.50	21.50	21.60
			25	0	2	21.50	21.60	21.40

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20415	20525	20635
						825.5 MHz	836.5 MHz	847.5 MHz
LTE Band 5	3	QPSK	1	0	0	23.50	23.50	23.50
			1	8	0	23.50	23.50	23.50
			1	14	0	23.50	23.50	23.60
			8	0	1	22.50	22.50	22.40
			8	4	1	22.50	22.50	22.50
			8	7	1	22.40	22.50	22.50
			15	0	1	22.50	22.50	22.40
		16QAM	1	0	1	22.00	22.00	21.80
			1	8	1	22.00	21.90	21.80
			1	14	1	22.00	22.10	21.90
			8	0	2	21.50	21.50	21.40
			8	4	2	21.50	21.60	21.50
			8	7	2	21.50	21.50	21.50
			15	0	2	21.50	21.50	21.40
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20407	20525	20643
						824.7 MHz	836.5 MHz	848.3 MHz
LTE Band 5	1.4	QPSK	1	0	0	23.50	23.50	23.40
			1	3	0	23.50	23.50	23.50
			1	5	0	23.50	23.50	23.50
			3	0	0	23.40	23.40	23.40
			3	1	0	23.50	23.50	23.40
			3	3	0	23.40	23.40	23.40
			6	0	1	22.50	22.40	22.50
		16QAM	1	0	1	21.90	21.80	21.80
			1	3	1	22.00	22.00	22.00
			1	5	1	21.90	22.00	22.00
			3	0	1	22.10	22.10	22.00
			3	1	1	22.20	22.20	22.10
			3	3	1	22.10	22.10	22.10
			6	0	2	21.70	21.60	21.70

LTE Band 12

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23060	23095	23130
						704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0	23.40	23.40	23.40
			1	25	0	23.40	23.30	23.30
			1	49	0	23.30	23.20	23.20
			25	0	1	22.20	22.30	22.30
			25	12	1	22.20	22.20	22.30
			25	25	1	22.10	22.10	22.30
			50	0	1	22.10	22.10	22.10
		16QAM	1	0	1	22.00	22.20	22.00
			1	25	1	22.00	21.90	21.80
			1	49	1	21.80	21.90	21.80
			25	0	2	21.30	21.40	21.30
			25	12	2	21.20	21.30	21.40
			25	25	2	21.20	21.20	21.30
			50	0	2	21.10	21.10	21.10
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23035	23095	23155
						701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	23.30	23.40	23.30
			1	12	0	23.20	23.20	23.20
			1	24	0	23.30	23.30	23.20
			12	0	1	22.20	22.20	22.20
			12	7	1	22.20	22.20	22.20
			12	13	1	22.20	22.10	22.20
			25	0	1	22.10	22.10	22.10
		16QAM	1	0	1	21.70	21.80	22.00
			1	12	1	21.80	21.80	22.20
			1	24	1	21.70	21.70	22.00
			12	0	2	21.20	21.10	21.40
			12	7	2	21.20	21.10	21.30
			12	13	2	21.10	21.00	21.20
			25	0	2	21.20	21.10	21.10

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23025	23095	23165
						700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	23.30	23.40	23.40
			1	8	0	23.30	23.30	23.40
			1	14	0	23.30	23.30	23.30
			8	0	1	22.20	22.20	22.20
			8	4	1	22.20	22.20	22.30
			8	7	1	22.20	22.10	22.20
			15	0	1	22.20	22.10	22.20
		16QAM	1	0	1	21.70	21.70	21.80
			1	8	1	21.70	21.70	21.70
			1	14	1	21.70	21.70	21.70
			8	0	2	21.20	21.20	21.10
			8	4	2	21.20	21.10	21.20
			8	7	2	21.30	21.10	21.10
			15	0	2	21.20	21.10	21.10
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23017	23095	23173
						699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	23.40	23.40	23.40
			1	3	0	23.40	23.40	23.40
			1	5	0	23.40	23.30	23.40
			3	0	0	23.30	23.20	23.30
			3	1	0	23.30	23.30	23.30
			3	3	0	23.30	23.30	23.30
			6	0	1	22.20	22.10	22.10
		16QAM	1	0	1	22.00	21.80	21.70
			1	3	1	21.80	21.70	21.70
			1	5	1	21.70	21.70	21.70
			3	0	1	21.80	21.80	21.80
			3	1	1	21.90	21.90	21.70
			3	3	1	21.80	21.80	21.70
			6	0	2	21.30	21.20	21.30

LTE Band 25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26140	26365	26590
						1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	20	QPSK	1	0	0	23.7	23.7	23.7
			1	49	0	23.7	23.6	23.6
			1	99	0	23.7	23.6	23.5
			50	0	1	22.5	22.5	22.5
			50	25	1	22.5	22.5	22.5
			50	49	1	22.5	22.4	22.5
			100	0	1	22.5	22.5	22.5
		16QAM	1	0	1	22.7	22.7	22.5
			1	49	1	22.7	22.7	22.4
			1	99	1	22.7	22.7	22.3
			50	0	2	21.7	21.5	21.5
			50	25	2	21.6	21.5	21.5
			50	49	2	21.7	21.5	21.5
			100	0	2	21.7	21.5	21.5
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26115	26365	26615
						1857.5 MHz	1882.5 MHz	1907.5 MHz
LTE Band 25	15	QPSK	1	0	0	23.70	23.50	23.70
			1	37	0	23.70	23.50	23.70
			1	74	0	23.60	23.50	23.70
			36	0	1	22.50	22.40	22.50
			36	18	1	22.50	22.50	22.50
			36	35	1	22.50	22.40	22.50
			75	0	1	22.50	22.40	22.60
		16QAM	1	0	1	22.20	22.20	22.20
			1	37	1	22.10	22.00	22.20
			1	74	1	22.10	22.10	22.10
			36	0	2	21.60	21.50	21.50
			36	18	2	21.50	21.50	21.50
			36	35	2	21.50	21.40	21.60
			75	0	2	21.60	21.40	21.60

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26090	26365	26640
						1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0	23.70	23.70	23.70
			1	24	0	23.70	23.70	23.70
			1	49	0	23.70	23.70	23.70
			25	0	1	22.70	22.70	22.70
			25	12	1	22.70	22.70	22.70
			25	24	1	22.70	22.70	22.70
			50	0	1	22.70	22.70	22.70
		16QAM	1	0	1	22.50	22.50	22.30
			1	24	1	22.40	22.30	22.60
			1	49	1	22.30	22.30	22.20
			25	0	2	21.70	21.70	21.70
			25	12	2	21.70	21.70	21.70
			25	24	2	21.70	21.70	21.70
			50	0	2	21.70	21.70	21.70
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26065	26365	26665
						1852.5 MHz	1882.5 MHz	1912.5 MHz
LTE Band 25	5	QPSK	1	0	0	23.70	23.70	23.70
			1	12	0	23.70	23.70	23.70
			1	24	0	23.70	23.70	23.70
			12	0	1	22.70	22.60	22.70
			12	6	1	22.70	22.60	22.70
			12	11	1	22.70	22.70	22.60
			25	0	1	22.60	22.70	22.70
		16QAM	1	0	1	22.10	22.10	22.70
			1	12	1	22.10	22.20	22.70
			1	24	1	22.10	22.20	22.70
			12	0	2	21.70	21.60	21.70
			12	6	2	21.60	21.60	21.70
			12	11	2	21.70	21.60	21.70
			25	0	2	21.70	21.70	21.70

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26055	26365	26675
						1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0	23.70	23.70	23.70
			1	7	0	23.70	23.70	23.70
			1	14	0	23.70	23.70	23.70
			6	0	1	22.60	22.60	22.60
			6	3	1	22.70	22.60	22.60
			6	5	1	22.60	22.70	22.60
			15	0	1	22.60	22.70	22.60
		16QAM	1	0	1	22.30	22.20	22.30
			1	7	1	22.30	22.40	22.20
			1	14	1	22.30	22.30	22.10
			6	0	2	21.70	21.70	21.70
			6	3	2	21.70	21.70	21.70
			6	5	2	21.70	21.70	21.70
			15	0	2	21.70	21.70	21.70
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26047	26365	26683
						1850.7 MHz	1882.5 MHz	1914.3 MHz
LTE Band 25	1.4	QPSK	1	0	0	23.70	23.70	23.70
			1	2	0	23.70	23.70	23.70
			1	5	0	23.70	23.70	23.70
			3	0	0	23.60	23.60	23.60
			3	1	0	23.70	23.60	23.70
			3	2	0	23.70	23.70	23.70
			6	0	1	22.60	22.50	22.60
		16QAM	1	0	1	22.20	22.10	22.10
			1	2	1	22.20	22.20	22.30
			1	5	1	22.20	22.30	22.10
			3	0	1	22.30	22.30	22.30
			3	1	1	22.50	22.40	22.40
			3	2	1	22.40	22.50	22.30
			6	0	2	21.70	21.70	21.70

LTE Band 26

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26765	26865	26965
						831.5 MHz	836.5 MHz	841.5 MHz
LTE Band 26	15	QPSK	1	0	0	23.60	23.60	23.60
			1	37	0	23.30	23.40	23.60
			1	74	0	23.40	23.40	23.50
			36	0	1	22.50	22.60	22.50
			36	20	1	22.50	22.50	22.50
			36	39	1	22.40	22.40	22.50
			75	0	1	22.40	22.40	22.40
		16QAM	1	0	1	22.10	22.10	22.10
			1	37	1	22.00	22.10	22.10
			1	74	1	21.90	22.00	22.00
			36	0	2	21.50	21.60	21.50
			36	20	2	21.50	21.60	21.50
			36	39	2	21.50	21.50	21.50
			75	0	2	21.40	21.40	21.40
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26740	26865	26990
						819 MHz	831.5 MHz	844 MHz
LTE Band 26	10	QPSK	1	0	0	23.60	23.60	23.60
			1	25	0	23.60	23.60	23.60
			1	49	0	23.60	23.50	23.50
			25	0	1	22.50	22.60	22.50
			25	12	1	22.50	22.60	22.60
			25	25	1	22.50	22.50	22.60
			50	0	1	22.50	22.40	22.50
		16QAM	1	0	1	22.30	22.30	21.90
			1	25	1	22.00	22.10	21.90
			1	49	1	22.20	22.10	21.90
			25	0	2	21.70	21.70	21.70
			25	12	2	21.70	21.70	21.70
			25	25	2	21.70	21.60	21.70
			50	0	2	21.60	21.60	21.70

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26715	26865	27015
						816.5 MHz	831.5 MHz	846.5 MHz
LTE Band 26	5	QPSK	1	0	0	23.60	23.60	23.50
			1	12	0	23.60	23.50	23.40
			1	24	0	23.60	23.50	23.40
			12	0	1	22.60	22.50	22.60
			12	7	1	22.60	22.60	22.60
			12	13	1	22.50	22.40	22.60
			25	0	1	22.60	22.60	22.60
		16QAM	1	0	1	21.80	21.80	22.30
			1	12	1	21.80	21.80	22.30
			1	24	1	21.90	21.70	22.40
			12	0	2	21.60	21.60	21.70
			12	7	2	21.60	21.60	21.70
			12	13	2	21.60	21.50	21.70
			25	0	2	21.70	21.70	21.60
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26705	26865	27025
						815.5 MHz	831.5 MHz	847.5 MHz
LTE Band 26	3	QPSK	1	0	0	23.50	23.50	23.60
			1	8	0	23.60	23.50	23.30
			1	14	0	23.50	23.40	23.60
			8	0	1	22.50	22.50	22.50
			8	4	1	22.50	22.50	22.50
			8	7	1	22.40	22.40	22.50
			15	0	1	22.50	22.50	22.50
		16QAM	1	0	1	22.10	22.10	21.90
			1	8	1	22.20	22.20	21.80
			1	14	1	22.10	22.00	21.90
			8	0	2	21.60	21.50	21.40
			8	4	2	21.60	21.50	21.50
			8	7	2	21.50	21.40	21.50
			15	0	2	21.50	21.50	21.40

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26697	26865	27033
						814.7 MHz	831.5 MHz	848.3 MHz
LTE Band 26	1.4	QPSK	1	0	0	23.60	23.60	23.60
			1	3	0	23.60	23.60	23.60
			1	5	0	23.60	23.60	23.60
			3	0	0	23.50	23.50	23.60
			3	1	0	23.50	23.50	23.60
			3	3	0	23.40	23.60	23.60
			6	0	1	22.40	22.40	22.30
		16QAM	1	0	1	22.00	22.00	21.90
			1	3	1	22.20	22.20	22.10
			1	5	1	21.90	21.90	22.00
			3	0	1	22.10	22.10	22.10
			3	1	1	22.30	22.30	22.10
			3	3	1	22.20	22.20	22.20
			6	0	2	21.60	21.60	21.50

LTE Band 41

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39750	40620	41490
						2506 MHz	2593 MHz	2680 MHz
LTE Band 41	20	QPSK	1	0	0	23.30	23.70	23.70
			1	49	0	23.40	23.60	23.60
			1	99	0	23.40	23.50	23.50
			50	0	1	22.20	22.50	22.50
			50	24	1	22.20	22.50	22.50
			50	50	1	22.20	22.50	22.50
			100	0	1	22.20	22.50	22.50
		16QAM	1	0	1	22.00	22.50	22.50
			1	49	1	22.00	22.50	22.40
			1	99	1	21.90	22.50	22.30
			50	0	2	21.20	21.50	21.60
			50	24	2	21.10	21.50	21.50
			50	50	2	21.20	21.50	21.60
			100	0	2	21.20	21.50	21.50

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39725	40620	41515
						2503.5 MHz	2593 MHz	2682.5 MHz
LTE Band 41	15	QPSK	1	0	0	23.30	23.60	23.60
			1	37	0	23.10	23.30	23.30
			1	74	0	23.30	23.60	23.50
			36	0	1	22.20	22.50	22.50
			36	20	1	22.20	22.50	22.60
			36	39	1	22.20	22.50	22.60
			75	0	1	22.20	22.50	22.50
		16QAM	1	0	1	22.00	22.40	22.60
			1	37	1	22.10	22.20	22.50
			1	74	1	21.80	22.30	22.40
			36	0	2	21.20	21.50	21.50
			36	20	2	21.20	21.50	21.70
			36	39	2	21.10	21.50	21.50
			75	0	2	21.20	21.50	21.50

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39700	40620	41540
						2501 MHz	2593 MHz	2685 MHz
LTE Band 41	10	QPSK	1	0	0	23.40	23.60	23.70
			1	25	0	23.60	23.50	23.70
			1	49	0	23.60	23.60	23.70
			25	0	1	22.30	22.50	22.40
			25	12	1	22.40	22.50	22.60
			25	25	1	22.40	22.50	22.50
			50	0	1	22.30	22.40	22.50
		16QAM	1	0	1	22.40	22.30	22.50
			1	25	1	22.20	22.20	22.50
			1	49	1	22.20	22.30	22.50
			25	0	2	21.30	21.50	21.50
			25	12	2	21.30	21.50	21.60
			25	25	2	21.30	21.50	21.50
			50	0	2	21.30	21.50	21.60
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						39675	40620	41565
						2498.5 MHz	2593 MHz	2687.5 MHz
LTE Band 41	5	QPSK	1	0	0	23.60	23.70	23.70
			1	12	0	23.50	23.50	23.50
			1	24	0	23.70	23.60	23.70
			12	0	1	22.30	22.50	22.40
			12	7	1	22.30	22.40	22.50
			12	13	1	22.30	22.40	22.50
			25	0	1	22.60	22.40	22.40
		16QAM	1	0	1	22.60	22.30	22.20
			1	12	1	22.50	22.30	22.20
			1	24	1	22.60	22.50	22.20
			12	0	2	21.30	21.50	21.50
			12	7	2	21.50	21.50	21.50
			12	13	2	21.50	21.50	21.50
			25	0	2	21.40	21.50	21.50

9. RADIATED TEST RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27 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.

27.50(c) - (10) Portable stations (hand-held devices) are limited to 3 watts ERP; (LTE B12)

27.50(d) - (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.(Band 4)

27.50(h) - (2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power. (LTE B41 & 7)

90.635(b) - The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw). (LTE B26)

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; PSA setting reference to 971168 D01 v02r02
For peak power measurement with a PSA:
a) Set the RBW ≥ OBW; b) Set VBW ≥ 3 × RBW; c) Set span ≥ 2 x RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points ≥ span/RBW; g) Trace mode = max hold;
For average power measurement with a PSA:
a) Set span to at least 1.5 times the OBW; b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz; c) Set VBW ≥ 3 x RBW; d) Set number of points in sweep ≥ 2 × span / RBW; e) Sweep time = auto-couple; f) Detector = RMS (power averaging); g) Use free run trigger If burst duty cycle ≥ 98; h) Use trigger to capture bursts If burst duty cycle < 98; i) Trace average at least 100 traces in power averaging (*i.e.*, RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

MODES TESTED

GSM, CDMA, WCDMA, and LTE

TEST RESULTS

9.1.1. ERP/EIRP RESULTS

GSM

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM1900	GPRS	512	1850.2	30.4	1096.48
		661	1880	30.6	1148.15
		810	1909.8	30.8	1202.26
	EGPRS	512	1850.2	28.4	691.83
		661	1880	28.9	776.25
		810	1909.8	28.7	741.31
GSM850	GPRS	128	824.2	30.126	1029.44
		190	836.6	30.244	1057.79
		251	848.8	29.605	913.06
	EGPRS	128	824.2	24.747	298.33
		190	836.6	24.629	290.34
		251	848.8	23.114	204.83

WCDMA

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 2	REL99	9262	1852.4	24.3	269.15
		9400	1880	25.1	323.59
		9538	1907.6	24.7	295.12
	HSDPA	9262	1852.4	24.0	251.19
		9400	1880	24.7	295.12
		9538	1907.6	24.1	257.04
Band 5	REL99	4132	826.4	21.89	154.56
		4183	836.6	20.43	110.43
		4233	846.6	20.93	123.91
	HSDPA	4132	826.4	21.58	143.91
		4183	836.6	20.20	104.74
		4233	846.6	20.89	122.77

CDMA

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC1	1xRTT	25	1851.25	25.75	375.84
		600	1880	26.45	441.57
		1175	1908.75	26.75	473.15
	EVDO REL. 0	25	1851.25	25.55	358.92
		600	1880	26.25	421.70
		1175	1908.75	26.65	462.38

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC0	1xRTT	1013	824.7	21.96	157.07
		384	836.52	21.11	129.15
		777	848.31	21.11	129.15
	EVDO REL. 0	1013	824.7	21.69	147.57
		384	836.52	21.11	129.12
		777	848.31	20.95	124.45

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC10	1xRTT	476	817.9	21.55	142.92
		580	820.5	21.53	142.27
		684	823.1	21.54	142.59
	EVDO REL. 0	476	817.9	21.47	140.28
		580	820.5	21.58	143.88
		684	823.1	21.64	145.88

9.1.2. LTE ERP/EIRP RESULTS

LTE Band 2

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	20	QPSK	1/0	1860	25.07	321.37
			1/0	1880	25.10	323.59
			1/0	1900	25.40	346.74
		16QAM	1/0	1860	24.40	275.42
			1/0	1880	24.50	281.84
			1/0	1900	24.78	300.61
	15	QPSK	1/0	1857.5	24.80	302.00
			1/0	1880	24.90	309.03
			1/0	1902.5	25.30	338.84
		16QAM	1/0	1857.5	24.15	260.02
			1/0	1880	24.40	275.42
			1/0	1902.5	24.70	295.12
	10	QPSK	1/0	1855	24.72	296.48
			1/0	1880	25.30	338.84
			1/0	1905	25.10	323.59
		16QAM	1/0	1855	24.00	251.19
			1/0	1880	24.70	295.12
			1/0	1905	24.40	275.42
	5	QPSK	1/0	1852.5	24.60	288.40
			1/0	1880	25.50	354.81
			1/0	1907.5	25.10	323.59
		16QAM	1/0	1852.5	23.90	245.47
			1/0	1880	24.80	302.00
			1/0	1907.5	24.40	275.42

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	3	QPSK	1/0	1851.5	24.70	295.12
			1/0	1880	25.69	370.68
			1/0	1908.5	25.20	331.13
		16QAM	1/0	1851.5	24.15	260.02
			1/0	1880	25.08	322.11
			1/0	1908.5	24.50	281.84
	1.4	QPSK	1/0	1850.7	24.68	293.43
			1/0	1880	25.28	337.29
			1/0	1909.3	25.87	386.01
		16QAM	1/0	1850.7	23.70	234.42
			1/0	1880	24.50	281.84
			1/0	1909.3	25.10	323.59

LTE Band 4

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	22.12	162.81
			1/0	1732.5	21.47	140.32
			1/0	1745	21.83	152.24
		16QAM	1/0	1720	21.42	138.57
			1/0	1732.5	20.77	119.43
			1/0	1745	21.13	129.58
	15	QPSK	1/0	1717.5	22.23	166.95
			1/0	1732.5	20.67	116.71
			1/0	1747.5	21.02	126.36
		16QAM	1/0	1717.5	21.53	142.10
			1/0	1732.5	20.07	101.65
			1/0	1747.5	20.32	107.55
	10	QPSK	1/0	1715	22.14	163.50
			1/0	1732.5	20.57	114.05
			1/0	1750	21.11	129.03
		16QAM	1/0	1715	21.44	139.16
			1/0	1732.5	19.97	99.34
			1/0	1750	20.41	109.82
	5	QPSK	1/0	1712.5	22.24	167.66
			1/0	1732.5	20.77	119.43
			1/0	1752.5	21.10	128.76
		16QAM	1/0	1712.5	21.54	142.70
			1/0	1732.5	20.07	101.65
			1/0	1752.5	20.50	112.15

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	3	QPSK	1/0	1711.5	22.25	167.80
			1/0	1732.5	21.67	146.93
			1/0	1753.5	20.99	125.72
		16QAM	1/0	1711.5	21.55	142.82
			1/0	1732.5	21.07	127.97
			1/0	1753.5	20.29	107.01
	1.4	QPSK	1/0	1710.7	22.30	169.86
			1/0	1732.5	22.02	159.19
			1/0	1754.3	21.79	151.05
		16QAM	1/0	1710.7	21.45	139.66
			1/0	1732.5	21.07	127.97
			1/0	1754.3	20.99	125.64

LTE Band 5

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	20.55	113.50
			1/0	836.5	20.24	105.68
			1/0	844	20.16	103.75
		16QAM	1/0	829	19.30	85.11
			1/0	836.5	20.01	100.23
			1/0	844	19.44	87.90
	5	QPSK	1/0	826.5	20.45	110.92
			1/0	836.5	20.21	104.95
			1/0	846.5	19.83	96.16
		16QAM	1/0	826.5	19.62	91.62
			1/0	836.5	19.13	81.85
			1/0	846.5	19.31	85.31
	3	QPSK	1/0	825.5	20.66	116.41
			1/0	836.5	20.20	104.71
			1/0	847.5	20.13	103.04
		16QAM	1/0	825.5	19.71	93.54
			1/0	836.5	19.44	87.90
			1/0	847.5	19.30	85.11
	1.4	QPSK	1/0	824.7	19.91	97.95
			1/0	836.5	21.30	134.90
			1/0	848.3	20.86	121.90
		16QAM	1/0	824.7	19.11	81.47
			1/0	836.5	19.72	93.76
			1/0	848.3	17.85	60.95

LTE Band 12

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	10	QPSK	1/0	704	16.12	40.93
			1/0	707.5	15.58	36.14
			1/0	711	16.68	46.56
		16QAM	1/0	704	15.50	35.48
			1/0	707.5	15.47	35.24
			1/0	711	15.34	34.20
	5	QPSK	1/0	701.5	15.87	38.64
			1/0	707.5	15.45	35.08
			1/0	713.5	16.13	41.02
		16QAM	1/0	701.5	14.98	31.48
			1/0	707.5	14.65	29.17
			1/0	713.5	15.06	32.06
	3	QPSK	1/0	700.5	15.32	34.04
			1/0	707.5	14.38	27.42
			1/0	714.5	15.60	36.31
		16QAM	1/0	700.5	14.85	30.55
			1/0	707.5	13.70	23.44
			1/0	714.5	14.87	30.69
	1.4	QPSK	1/0	699.7	14.76	29.92
			1/0	707.5	14.69	29.44
			1/0	715.3	15.28	33.73
		16QAM	1/0	699.7	13.70	23.44
			1/0	707.5	14.07	25.53
			1/0	715.3	14.73	29.72

LTE Band 25

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	20	QPSK	1/0	1860	25.07	321.37
			1/0	1882.5	25.10	323.59
			1/0	1905	25.40	346.74
		16QAM	1/0	1860	24.40	275.42
			1/0	1882.5	24.50	281.84
			1/0	1905	24.78	300.61
	15	QPSK	1/0	1857.5	24.80	302.00
			1/0	1882.5	24.90	309.03
			1/0	1907.5	25.30	338.84
		16QAM	1/0	1857.5	24.15	260.02
			1/0	1882.5	24.40	275.42
			1/0	1907.5	24.70	295.12
	10	QPSK	1/0	1855	24.72	296.48
			1/0	1882.5	25.30	338.84
			1/0	1910	25.10	323.59
		16QAM	1/0	1855	24.00	251.19
			1/0	1882.5	24.70	295.12
			1/0	1910	24.40	275.42
	5	QPSK	1/0	1852.5	24.60	288.40
			1/0	1882.5	25.50	354.81
			1/0	1912.5	25.10	323.59
		16QAM	1/0	1852.5	23.90	245.47
			1/0	1882.5	24.80	302.00
			1/0	1912.5	24.40	275.42

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	3	QPSK	1/0	1851.5	24.70	295.12
			1/0	1882.5	25.69	370.68
			1/0	1913.5	25.20	331.13
		16QAM	1/0	1851.5	24.15	260.02
			1/0	1882.5	25.08	322.11
			1/0	1913.5	24.50	281.84
	1.4	QPSK	1/0	1850.7	24.68	293.43
			1/0	1882.5	25.28	337.29
			1/0	1914.3	25.87	386.01
		16QAM	1/0	1850.7	23.70	234.42
			1/0	1882.5	24.50	281.84
			1/0	1914.3	25.10	323.59

LTE Band 26

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE26	15	QPSK	1/0	831.5	20.19	104.47
			1/0	836.5	19.69	93.11
			1/0	841.5	20.54	113.24
		16QAM	1/0	831.5	19.31	85.31
			1/0	836.5	18.97	78.89
			1/0	841.5	19.47	88.51
	10	QPSK	1/0	819	20.55	113.50
			1/0	831.5	20.24	105.68
			1/0	844	20.16	103.75
		16QAM	1/0	819	19.30	85.11
			1/0	831.5	20.01	100.23
			1/0	844	19.44	87.90
	5	QPSK	1/0	816.5	20.45	110.92
			1/0	831.5	20.21	104.95
			1/0	846.5	19.83	96.16
		16QAM	1/0	816.5	19.62	91.62
			1/0	831.5	19.13	81.85
			1/0	846.5	19.31	85.31
	3	QPSK	1/0	815.5	20.66	116.41
			1/0	831.5	20.20	104.71
			1/0	847.5	20.13	103.04
		16QAM	1/0	815.5	19.71	93.54
			1/0	831.5	19.44	87.90
			1/0	847.5	19.30	85.11
	1.4	QPSK	1/0	814.7	19.91	97.95
			1/0	831.5	21.30	134.90
			1/0	848.3	20.86	121.90
		16QAM	1/0	814.7	19.11	81.47
			1/0	831.5	19.72	93.76
			1/0	848.3	17.85	60.95

LTE Band 41

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE41	20	QPSK	1/0	2506	25.14	326.59
			1/0	2593	25.41	347.21
			1/0	2680	25.03	318.10
		16QAM	1/0	2506	24.98	314.76
			1/0	2593	25.11	324.03
			1/0	2680	24.73	296.87
	15	QPSK	1/0	2503.5	25.18	329.54
			1/0	2593	25.51	355.30
			1/0	2682.5	24.73	297.33
		16QAM	1/0	2503.5	24.58	287.02
			1/0	2593	24.91	309.45
			1/0	2682.5	24.33	271.17
	10	QPSK	1/0	2501	25.38	345.01
			1/0	2593	25.81	380.71
			1/0	2685	24.44	277.92
		16QAM	1/0	2501	25.16	327.97
			1/0	2593	24.81	302.41
			1/0	2685	24.04	253.47
	5	QPSK	1/0	2498.5	24.93	311.44
			1/0	2593	26.63	460.67
			1/0	2687.5	25.37	344.51
		16QAM	1/0	2498.5	24.07	255.49
			1/0	2593	25.51	355.30
			1/0	2687.5	24.65	291.47

9.1.3. ERP/EIRP PLOTS

GSM

Band

GSM 1900

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: EGPRS 1900 MHz Fundamentals

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	10.50	V	0.9	9.2	18.80	33.0	-14.2	
1850.20	20.10	H	0.9	9.2	28.40	33.0	-4.6	
Mid Ch								
1880.00	10.80	V	0.9	9.2	19.10	33.0	-13.9	
1880.00	20.60	H	0.9	9.2	28.90	33.0	-4.1	
High Ch								
1909.80	10.80	V	0.9	9.1	19.00	33.0	-14.0	
1909.80	20.50	H	0.9	9.1	28.70	33.0	-4.3	

Band

GSM 1900

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: GPRS 1900 MHz Fundamentals

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	14.30	V	0.9	9.2	22.60	33.0	-10.4	
1850.20	22.10	H	0.9	9.2	30.40	33.0	-2.6	
Mid Ch								
1880.00	14.30	V	0.9	9.2	22.60	33.0	-10.4	
1880.00	22.30	H	0.9	9.2	30.60	33.0	-2.4	
High Ch								
1909.80	14.70	V	0.9	9.1	22.90	33.0	-10.1	
1909.80	22.60	H	0.9	9.1	30.80	33.0	-2.2	

Band

GSM 850

EGPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 04/22/15
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Mode: EGPRS850

Test Equipment:
Receiving: Hybrid T243, and Chamber B N-type Cable
Substitution: Dipole T273, 5ft N Cable 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	20.21	V	0.9	0.0	19.31	38.5	-19.1	
824.20	25.65	H	0.9	0.0	24.75	38.5	-13.7	
Mid Ch								
836.60	18.76	V	0.9	0.0	17.86	38.5	-20.6	
836.60	25.53	H	0.9	0.0	24.63	38.5	-13.8	
High Ch								
848.80	16.76	V	0.9	0.0	15.86	38.5	-22.6	
848.80	24.01	H	0.9	0.0	23.11	38.5	-15.3	

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

Band

GSM 850

GPRS

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 04/22/15
Test Engineer: O. Stoelting
Configuration: X-pos EUT Only
Mode: GPRS850

Test Equipment:
Receiving: Hybrid T243, and Chamber B N-type Cable
Substitution: Dipole T273, 5ft N Cable 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	24.24	V	0.9	0.0	23.34	38.5	-15.1	
824.20	31.03	H	0.9	0.0	30.13	38.5	-8.3	
Mid Ch								
836.60	22.34	V	0.9	0.0	21.44	38.5	-17.0	
836.60	31.14	H	0.9	0.0	30.24	38.5	-8.2	
High Ch								
848.80	21.44	V	0.9	0.0	20.54	38.5	-17.9	
848.80	30.50	H	0.9	0.0	29.61	38.5	-8.8	

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

WCDMA

Band

Band 2

HSDPA

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: HSDPA Band 2 Fundamentals

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.40	14.50	V	0.9	9.2	22.80	33.0	-10.2	
1852.40	15.70	H	0.9	9.2	24.00	33.0	-9.0	
Mid Ch								
1880.00	15.10	V	0.9	9.2	23.40	33.0	-9.6	
1880.00	16.40	H	0.9	9.2	24.70	33.0	-8.3	
High Ch								
1907.60	15.20	V	0.9	9.1	23.40	33.0	-9.6	
1907.60	15.90	H	0.9	9.1	24.10	33.0	-8.9	

Band

Band 2

REL99

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: Rel99 Band 2 Fundamentals

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.40	14.80	V	0.9	9.2	23.10	33.0	-9.9	
1852.40	16.00	H	0.9	9.2	24.30	33.0	-8.7	
Mid Ch								
1880.00	15.50	V	0.9	9.2	23.80	33.0	-9.2	
1880.00	16.80	H	0.9	9.2	25.10	33.0	-7.9	
High Ch								
1907.60	15.46	V	0.9	9.1	23.66	33.0	-9.3	
1907.60	16.50	H	0.9	9.1	24.70	33.0	-8.3	

Band

Band 5

HSDPA

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

Company: LG
Project #: 15I20514
Date: 04/24/15
Test Engineer: O. Stoelting
Configuration: X-pos EUT
Mode: WCDMA Band 5 HSDPA

Test Equipment:
Receiving: Sunol T185, and 3m Chamber C N-type Cable
Substitution: Dipole T416, 6ft SMA Cable 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	13.39	V	0.9	0.0	12.49	38.5	-26.0	
826.40	22.48	H	0.9	0.0	21.58	38.5	-16.9	
Mid Ch								
836.60	14.05	V	0.9	0.0	13.15	38.5	-25.3	
836.60	21.10	H	0.9	0.0	20.20	38.5	-18.2	
High Ch								
846.60	14.03	V	0.9	0.0	13.13	38.5	-25.3	
846.60	21.79	H	0.9	0.0	20.89	38.5	-17.6	

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 C

Company: LG
Project #: 15I20514
Date: 04/24/15
Test Engineer: O. Stoelting
Configuration: X-pos EUT
Mode: REL99 B5 FUND

Test Equipment:
Receiving: Sunol T185, and 3m Chamber C N-type Cable
Substitution: Dipole T416, 6ft SMA Cable 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	13.22	V	0.9	0.0	12.32	38.5	-26.1	
826.40	22.79	H	0.9	0.0	21.89	38.5	-16.6	
Mid Ch								
836.60	13.54	V	0.9	0.0	12.64	38.5	-25.8	
836.60	21.33	H	0.9	0.0	20.43	38.5	-18.0	
High Ch								
846.60	13.22	V	0.9	0.0	12.32	38.5	-26.1	
846.60	21.83	H	0.9	0.0	20.93	38.5	-17.5	

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

CDMA

Band

BC1

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Mode: CDMA EVDO BC1

Test Equipment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 6ft SMA Cable

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.8513	11.2	V	0.85	9.20	19.55	33.0	-13.5	
1.8513	17.2	H	0.85	9.20	25.55	33.0	-7.5	
Mid Ch								
1.8800	11.8	V	0.85	9.20	20.15	33.0	-12.9	
1.8800	17.9	H	0.85	9.20	26.25	33.0	-6.8	
High Ch								
1.9088	12.6	V	0.85	9.10	20.81	33.0	-12.2	
1.9088	18.4	H	0.85	9.10	26.65	33.0	-6.4	

Rev. 3.17.11

Band

BC1

1xRTT

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Mode: CDMA RTT BC1

Test Equipment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 6ft SMA Cable

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1.8513	9.4	V	0.85	9.20	17.75	33.0	-15.3	
1.8513	17.4	H	0.85	9.20	25.75	33.0	-7.3	
Mid Ch								
1.8800	9.7	V	0.85	9.20	18.05	33.0	-15.0	
1.8800	18.1	H	0.85	9.20	26.45	33.0	-6.6	
High Ch								
1.9088	10.5	V	0.85	9.10	18.75	33.0	-14.3	
1.9088	18.5	H	0.85	9.10	26.75	33.0	-6.3	

Rev. 3.17.11

Band

BC0

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/28/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: CDMA EVDO BC0

Test Equipment:
Receiving: Hybrid T185, and Chamber N-type Cable
Substitution: Dipole T416, 4ft SMA Cable 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								
824.70	14.14	V	0.9	0.0	13.24	38.5	-25.2	
824.70	22.59	H	0.9	0.0	21.69	38.5	-16.8	
Mid Ch								
836.52	14.70	V	0.9	0.0	13.80	38.5	-24.7	
836.52	22.01	H	0.9	0.0	21.11	38.5	-17.3	
High Ch								
848.31	15.24	V	0.9	0.0	14.34	38.5	-24.1	
848.31	21.85	H	0.9	0.0	20.95	38.5	-17.5	

Band

BC0

1xRTT

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/28/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: CDMA RTT BC0

Test Equipment:
Receiving: Hybrid T185, and Chamber N-type Cable
Substitution: Dipole T416, 4ft SMA Cable 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								
824.70	14.21	V	0.9	0.0	13.31	38.5	-25.1	
824.70	22.86	H	0.9	0.0	21.96	38.5	-16.5	
Mid Ch								
836.52	14.75	V	0.9	0.0	13.85	38.5	-24.6	
836.52	22.01	H	0.9	0.0	21.11	38.5	-17.3	
High Ch								
848.31	15.02	V	0.9	0.0	14.12	38.5	-24.3	
848.31	22.01	H	0.9	0.0	21.11	38.5	-17.3	

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Band

BC10

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/28/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: CDMA EVDO BC10

Test Equipment:
Receiving: Hybrid T185, and Chamber N-type Cable
Substitution: Dipole T416, 4ft SMA Cable 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								
817.90	14.13	V	0.9	0.0	13.23	38.5	-25.2	
817.90	22.37	H	0.9	0.0	21.47	38.5	-17.0	
Mid Ch								
820.50	14.95	V	0.9	0.0	14.05	38.5	-24.4	
820.50	22.48	H	0.9	0.0	21.58	38.5	-16.9	
High Ch								
823.10	15.62	V	0.9	0.0	14.72	38.5	-23.7	
823.10	22.54	H	0.9	0.0	21.64	38.5	-16.8	

Band

BC10

1xRTT

High Frequency Substitution Measurement
UL Verification Services Chamber G

Company: LG
Project #: 15I20514
Date: 4/28/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Mode: CDMA RTT BC10

Test Equipment:
Receiving: Hybrid T185, and Chamber N-type Cable
Substitution: Dipole T416, 4ft SMA Cable 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								
817.90	14.77	V	0.9	0.0	13.87	38.5	-24.6	-19.3
817.90	22.45	H	0.9	0.0	21.55	38.5	-16.9	-10.2
Mid Ch								
820.50	15.44	V	0.9	0.0	14.54	38.5	-23.9	-19.5
820.50	22.43	H	0.9	0.0	21.53	38.5	-16.9	-10.3
High Ch								
823.10	16.18	V	0.9	0.0	15.28	38.5	-23.2	-19.6
823.10	22.44	H	0.9	0.0	21.54	38.5	-16.9	-10.3

Rev. 3.17.11

LTE Band 2

Band

LTE2

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	14.70	V	0.9	9.2	23.00	33.0	-10.0	
1860.00	16.10	H	0.9	9.2	24.40	33.0	-8.6	
Mid Ch								
1880.00	14.52	V	0.9	9.2	22.82	33.0	-10.2	
1880.00	16.20	H	0.9	9.2	24.50	33.0	-8.5	
High Ch								
1900.00	15.20	V	0.9	9.1	23.40	33.0	-9.6	
1900.00	16.58	H	0.9	9.1	24.78	33.0	-8.2	

Band

LTE2

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	15.40	V	0.9	9.2	23.70	33.0	-9.3	
1860.00	16.77	H	0.9	9.2	25.07	33.0	-7.9	
Mid Ch								
1880.00	15.10	V	0.9	9.2	23.40	33.0	-9.6	
1880.00	16.80	H	0.9	9.2	25.10	33.0	-7.9	
High Ch								
1900.00	15.90	V	0.9	9.1	24.10	33.0	-8.9	
1900.00	17.20	H	0.9	9.1	25.40	33.0	-7.6	

Band

LTE2

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	15.20	V	0.9	9.2	23.50	33.0	-9.5	
1857.50	15.85	H	0.9	9.2	24.15	33.0	-8.9	
Mid Ch								
1880.00	15.70	V	0.9	9.2	24.00	33.0	-9.0	
1880.00	16.10	H	0.9	9.2	24.40	33.0	-8.6	
High Ch								
1902.50	16.40	V	0.9	9.1	24.60	33.0	-8.4	
1902.50	16.50	H	0.9	9.1	24.70	33.0	-8.3	

Band

LTE2

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	15.90	V	0.9	9.2	24.20	33.0	-8.8	
1857.50	16.50	H	0.9	9.2	24.80	33.0	-8.2	
Mid Ch								
1880.00	16.40	V	0.9	9.2	24.70	33.0	-8.3	
1880.00	16.60	H	0.9	9.2	24.90	33.0	-8.1	
High Ch								
1902.50	17.10	V	0.9	9.1	25.30	33.0	-7.7	
1902.50	17.10	H	0.9	9.1	25.30	33.0	-7.7	

Band

LTE2

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	15.70	V	0.9	9.2	24.00	33.0	-9.0	
1855.00	15.60	H	0.9	9.2	23.90	33.0	-9.1	
Mid Ch								
1880.00	15.50	V	0.9	9.2	23.80	33.0	-9.2	
1880.00	16.40	H	0.9	9.2	24.70	33.0	-8.3	
High Ch								
1905.00	15.80	V	0.9	9.1	24.00	33.0	-9.0	
1905.00	16.20	H	0.9	9.1	24.40	33.0	-8.6	

Band

LTE2

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.40	V	0.9	9.2	24.70	33.0	-8.3	
1855.00	16.42	H	0.9	9.2	24.72	33.0	-8.3	
Mid Ch								
1880.00	16.20	V	0.9	9.2	24.50	33.0	-8.5	
1880.00	17.00	H	0.9	9.2	25.30	33.0	-7.7	
High Ch								
1905.00	16.50	V	0.9	9.1	24.70	33.0	-8.3	
1905.00	16.90	H	0.9	9.1	25.10	33.0	-7.9	

Band

LTE2

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.16	V	0.9	9.2	23.46	33.0	-9.5	
1852.50	15.60	H	0.9	9.2	23.90	33.0	-9.1	
Mid Ch								
1880.00	15.80	V	0.9	9.2	24.10	33.0	-8.9	
1880.00	16.50	H	0.9	9.2	24.80	33.0	-8.2	
High Ch								
1907.50	16.00	V	0.9	9.1	24.20	33.0	-8.8	
1907.50	16.20	H	0.9	9.1	24.40	33.0	-8.6	

Band

LTE2

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.86	V	0.9	9.2	24.16	33.0	-8.8	
1852.50	16.30	H	0.9	9.2	24.60	33.0	-8.4	
Mid Ch								
1880.00	16.60	V	0.9	9.2	24.90	33.0	-8.1	
1880.00	17.20	H	0.9	9.2	25.50	33.0	-7.5	
High Ch								
1907.50	16.60	V	0.9	9.1	24.80	33.0	-8.2	
1907.50	16.90	H	0.9	9.1	25.10	33.0	-7.9	

Band

LTE2

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	15.30	V	0.9	9.2	23.60	33.0	-9.4	
1851.50	15.85	H	0.9	9.2	24.15	33.0	-8.9	
Mid Ch								
1880.00	16.00	V	0.9	9.2	24.30	33.0	-8.7	
1880.00	16.78	H	0.9	9.2	25.08	33.0	-7.9	
High Ch								
1908.50	15.40	V	0.9	9.1	23.60	33.0	-9.4	
1908.50	16.30	H	0.9	9.1	24.50	33.0	-8.5	

Band

LTE2

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	9.2	24.40	33.0	-8.6	
1851.50	16.40	H	0.9	9.2	24.70	33.0	-8.3	
Mid Ch								
1880.00	16.80	V	0.9	9.2	25.10	33.0	-7.9	
1880.00	17.39	H	0.9	9.2	25.69	33.0	-7.3	
High Ch								
1908.50	16.20	V	0.9	9.1	24.40	33.0	-8.6	
1908.50	17.00	H	0.9	9.1	25.20	33.0	-7.8	

Band

LTE2

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.10	V	0.9	9.2	23.40	33.0	-9.6	-23.5
1850.70	15.40	H	0.9	9.2	23.70	33.0	-9.3	-22.8
Mid Ch								
1880.00	15.70	V	0.9	9.2	24.00	33.0	-9.0	-23.7
1880.00	16.20	H	0.9	9.2	24.50	33.0	-8.5	-23.0
High Ch								
1909.30	16.70	V	0.9	9.1	24.90	33.0	-8.1	-23.3
1909.30	16.90	H	0.9	9.1	25.10	33.0	-7.9	-22.6

Band

LTE2

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 2 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.96	V	0.9	9.2	24.30	33.0	-8.7	-22.6
1850.70	16.34	H	0.9	9.2	24.68	33.0	-8.3	-21.9
Mid Ch								
1880.00	16.48	V	0.9	9.2	24.73	33.0	-8.3	-22.9
1880.00	17.03	H	0.9	9.2	25.28	33.0	-7.7	-22.2
High Ch								
1909.30	17.40	V	0.9	9.1	25.57	33.0	-7.4	-22.6
1909.30	17.70	H	0.9	9.1	25.87	33.0	-7.1	-21.8

LTE Band 4

Band

LTE4

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	12.40	V	0.9	8.2	19.72	30.0	-10.3	-25.3
1720.00	14.10	H	0.9	8.2	21.42	30.0	-8.6	-24.0
Mid Ch								
1732.50	12.60	V	0.9	8.2	19.87	30.0	-10.1	-25.2
1732.50	13.50	H	0.9	8.2	20.77	30.0	-9.2	-23.9
High Ch								
1745.00	12.10	V	0.9	8.1	19.33	30.0	-10.7	-25.6
1745.00	13.90	H	0.9	8.1	21.13	30.0	-8.9	-23.7

Band

LTE4

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	13.10	V	0.9	8.2	20.42	30.0	-9.6	-24.6
1720.00	14.80	H	0.9	8.2	22.12	30.0	-7.9	-23.3
Mid Ch								
1732.50	13.30	V	0.9	8.2	20.57	30.0	-9.4	-24.5
1732.50	14.20	H	0.9	8.2	21.47	30.0	-8.5	-23.2
High Ch								
1745.00	12.70	V	0.9	8.1	19.93	30.0	-10.1	-25.0
1745.00	14.60	H	0.9	8.1	21.83	30.0	-8.2	-23.0

Band

LTE4

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	12.50	V	0.9	8.2	19.83	30.0	-10.2	
1717.50	14.20	H	0.9	8.2	21.53	30.0	-8.5	
Mid Ch								
1732.50	12.40	V	0.9	8.2	19.67	30.0	-10.3	
1732.50	12.80	H	0.9	8.2	20.07	30.0	-9.9	
High Ch								
1747.50	12.10	V	0.9	8.1	19.32	30.0	-10.7	
1747.50	13.10	H	0.9	8.1	20.32	30.0	-9.7	

Band

LTE4

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	13.20	V	0.9	8.2	20.53	30.0	-9.5	
1717.50	14.90	H	0.9	8.2	22.23	30.0	-7.8	
Mid Ch								
1732.50	13.10	V	0.9	8.2	20.37	30.0	-9.6	
1732.50	13.40	H	0.9	8.2	20.67	30.0	-9.3	
High Ch								
1747.50	12.70	V	0.9	8.1	19.92	30.0	-10.1	
1747.50	13.80	H	0.9	8.1	21.02	30.0	-9.0	

Band

LTE4

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	12.50	V	0.9	8.2	19.84	30.0	-10.2	
1715.00	14.10	H	0.9	8.2	21.44	30.0	-8.6	
Mid Ch								
1732.50	12.10	V	0.9	8.2	19.37	30.0	-10.6	
1732.50	12.70	H	0.9	8.2	19.97	30.0	-10.0	
High Ch								
1750.00	12.20	V	0.9	8.1	19.41	30.0	-10.6	
1750.00	13.20	H	0.9	8.1	20.41	30.0	-9.6	

Band

LTE4

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	13.20	V	0.9	8.2	20.54	30.0	-9.5	
1715.00	14.80	H	0.9	8.2	22.14	30.0	-7.9	
Mid Ch								
1732.50	12.80	V	0.9	8.2	20.07	30.0	-9.9	
1732.50	13.30	H	0.9	8.2	20.57	30.0	-9.4	
High Ch								
1750.00	12.90	V	0.9	8.1	20.11	30.0	-9.9	
1750.00	13.90	H	0.9	8.1	21.11	30.0	-8.9	

Band

LTE4

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	12.60	V	0.9	8.2	19.94	30.0	-10.1	
1712.50	14.20	H	0.9	8.2	21.54	30.0	-8.5	
Mid Ch								
1732.50	12.20	V	0.9	8.2	19.47	30.0	-10.5	
1732.50	12.80	H	0.9	8.2	20.07	30.0	-9.9	
High Ch								
1752.50	12.10	V	0.9	8.1	19.30	30.0	-10.7	
1752.50	13.30	H	0.9	8.1	20.50	30.0	-9.5	

Band

LTE4

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	13.30	V	0.9	8.2	20.64	30.0	-9.4	
1712.50	14.90	H	0.9	8.2	22.24	30.0	-7.8	
Mid Ch								
1732.50	12.90	V	0.9	8.2	20.17	30.0	-9.8	
1732.50	13.50	H	0.9	8.2	20.77	30.0	-9.2	
High Ch								
1752.50	12.70	V	0.9	8.1	19.90	30.0	-10.1	
1752.50	13.90	H	0.9	8.1	21.10	30.0	-8.9	

Band

LTE4

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	12.20	V	0.9	8.2	19.55	30.0	-10.5	7.0
1711.50	14.20	H	0.9	8.2	21.55	30.0	-8.5	-23.9
Mid Ch								
1732.50	12.20	V	0.9	8.2	19.47	30.0	-10.5	-25.6
1732.50	13.80	H	0.9	8.2	21.07	30.0	-8.9	-23.6
High Ch								
1753.50	11.90	V	0.9	8.1	19.09	30.0	-10.9	-25.8
1753.50	13.10	H	0.9	8.1	20.29	30.0	-9.7	-24.5

Band

LTE4

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	12.90	V	0.9	8.2	20.25	30.0	-9.8	
1711.50	14.90	H	0.9	8.2	22.25	30.0	-7.8	
Mid Ch								
1732.50	12.80	V	0.9	8.2	20.07	30.0	-9.9	
1732.50	14.40	H	0.9	8.2	21.67	30.0	-8.3	
High Ch								
1753.50	12.30	V	0.9	8.1	19.49	30.0	-10.5	
1753.50	13.80	H	0.9	8.1	20.99	30.0	-9.0	

Band

LTE4

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	11.40	V	0.9	8.3	18.75	30.0	-11.2	
1710.70	14.10	H	0.9	8.3	21.45	30.0	-8.5	
Mid Ch								
1732.50	11.80	V	0.9	8.2	19.07	30.0	-10.9	
1732.50	13.80	H	0.9	8.2	21.07	30.0	-8.9	
High Ch								
1754.30	11.30	V	0.9	8.1	18.49	30.0	-11.5	
1754.30	13.80	H	0.9	8.1	20.99	30.0	-9.0	

Band

LTE4

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	12.10	V	0.9	8.3	19.45	30.0	-10.5	
1710.70	14.95	H	0.9	8.3	22.30	30.0	-7.7	
Mid Ch								
1732.50	12.28	V	0.9	8.2	19.55	30.0	-10.4	
1732.50	14.75	H	0.9	8.2	22.02	30.0	-8.0	
High Ch								
1754.30	12.02	V	0.9	8.1	19.21	30.0	-10.8	
1754.30	14.60	H	0.9	8.1	21.79	30.0	-8.2	

LTE Band 5

Band

LTE5

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	LG Electronics
Project #:	15I20514
Date:	4/24/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT
Location:	Chamber C
Mode:	LTE_16QAM Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	12.03	V	0.9	0.0	11.13	38.5	-27.4	
829.00	20.20	H	0.9	0.0	19.30	38.5	-19.2	
Mid Ch								
836.50	12.56	V	0.9	0.0	11.66	38.5	-26.8	
836.50	20.91	H	0.9	0.0	20.01	38.5	-18.5	
High Ch								
844.00	13.01	V	0.9	0.0	12.11	38.5	-26.4	
844.00	20.34	H	0.9	0.0	19.44	38.5	-19.1	

Band

LTE5

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 5 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	13.32	V	0.9	0.0	12.42	38.5	-26.1	
829.00	21.45	H	0.9	0.0	20.55	38.5	-18.0	
Mid Ch								
836.50	12.94	V	0.9	0.0	12.04	38.5	-26.5	
836.50	21.14	H	0.9	0.0	20.24	38.5	-18.3	
High Ch								
844.00	13.66	V	0.9	0.0	12.76	38.5	-25.7	
844.00	21.06	H	0.9	0.0	20.16	38.5	-18.3	

Band

LTE5

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	11.14	V	0.9	0.0	10.24	38.5	-28.3	
826.50	20.52	H	0.9	0.0	19.62	38.5	-18.9	
Mid Ch								
836.50	11.96	V	0.9	0.0	11.06	38.5	-27.4	
836.50	20.03	H	0.9	0.0	19.13	38.5	-19.4	
High Ch								
846.50	13.26	V	0.9	0.0	12.36	38.5	-26.1	
846.50	20.21	H	0.9	0.0	19.31	38.5	-19.2	

Band

LTE5

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 5 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	11.82	V	0.9	0.0	10.92	38.5	-27.6	
826.50	21.35	H	0.9	0.0	20.45	38.5	-18.1	
Mid Ch								
836.50	13.24	V	0.9	0.0	12.34	38.5	-26.2	
836.50	21.11	H	0.9	0.0	20.21	38.5	-18.3	
High Ch								
846.50	13.59	V	0.9	0.0	12.69	38.5	-25.8	
846.50	20.73	H	0.9	0.0	19.83	38.5	-18.7	

Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	11.42	V	0.9	0.0	10.52	38.5	-28.0	
825.50	20.61	H	0.9	0.0	19.71	38.5	-18.8	
Mid Ch								
836.50	12.41	V	0.9	0.0	11.51	38.5	-27.0	
836.50	20.34	H	0.9	0.0	19.44	38.5	-19.1	
High Ch								
847.50	12.50	V	0.9	0.0	11.60	38.5	-26.9	
847.50	20.20	H	0.9	0.0	19.30	38.5	-19.2	

Band

LTE5

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 5 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	12.07	V	0.9	0.0	11.17	38.5	-27.3	
825.50	21.56	H	0.9	0.0	20.66	38.5	-17.8	
Mid Ch								
836.50	13.22	V	0.9	0.0	12.32	38.5	-26.2	
836.50	21.10	H	0.9	0.0	20.20	38.5	-18.3	
High Ch								
847.50	13.54	V	0.9	0.0	12.64	38.5	-25.9	
847.50	21.03	H	0.9	0.0	20.13	38.5	-18.4	

Band

LTE5

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	10.80	V	0.9	0.0	9.90	38.5	-28.6	
824.70	20.01	H	0.9	0.0	19.11	38.5	-19.4	
Mid Ch								
836.50	9.33	V	0.9	0.0	8.43	38.5	-30.1	
836.50	20.62	H	0.9	0.0	19.72	38.5	-18.8	
High Ch								
848.30	11.43	V	0.9	0.0	10.53	38.5	-28.0	
848.30	18.75	H	0.9	0.0	17.85	38.5	-20.7	

Band

LTE5

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 5 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	12.13	V	0.9	0.0	11.23	38.5	-27.3	
824.70	20.81	H	0.9	0.0	19.91	38.5	-18.6	
Mid Ch								
836.50	11.29	V	0.9	0.0	10.39	38.5	-28.1	
836.50	22.20	H	0.9	0.0	21.30	38.5	-17.2	
High Ch								
848.30	12.98	V	0.9	0.0	12.08	38.5	-26.4	
848.30	21.76	H	0.9	0.0	20.86	38.5	-17.6	

LTE Band 12

Band

LTE12

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	LG Electronics
Project #:	15I20514
Date:	4/24/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT
Location:	Chamber C
Mode:	LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	5.58	V	0.9	0.0	4.68	38.5	-33.8	
704.00	16.40	H	0.9	0.0	15.50	38.5	-23.0	
Mid Ch								
707.50	6.52	V	0.9	0.0	5.62	38.5	-32.9	
707.50	16.37	H	0.9	0.0	15.47	38.5	-23.0	
High Ch								
711.00	6.09	V	0.9	0.0	5.19	38.5	-33.3	
711.00	16.24	H	0.9	0.0	15.34	38.5	-23.2	

Band

LTE12

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	7.52	V	0.9	0.0	6.62	38.5	-31.9	
704.00	17.02	H	0.9	0.0	16.12	38.5	-22.4	
Mid Ch								
707.50	7.65	V	0.9	0.0	6.75	38.5	-31.8	
707.50	16.48	H	0.9	0.0	15.58	38.5	-22.9	
High Ch								
711.00	8.31	V	0.9	0.0	7.41	38.5	-31.1	
711.00	17.58	H	0.9	0.0	16.68	38.5	-21.8	

Band

LTE12

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	6.97	V	0.9	0.0	6.07	34.8	-28.7	
701.50	15.88	H	0.9	0.0	14.98	34.8	-19.8	
Mid Ch								
707.50	6.83	V	0.9	0.0	5.93	34.8	-28.8	
707.50	15.55	H	0.9	0.0	14.65	34.8	-20.1	
High Ch								
713.50	7.41	V	0.9	0.0	6.51	34.8	-28.3	
713.50	15.96	H	0.9	0.0	15.06	34.8	-19.7	

Band

LTE12

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	8.04	V	0.9	0.0	7.14	34.8	-27.6	
701.50	16.77	H	0.9	0.0	15.87	34.8	-18.9	
Mid Ch								
707.50	7.73	V	0.9	0.0	6.83	34.8	-27.9	
707.50	16.35	H	0.9	0.0	15.45	34.8	-19.3	
High Ch								
713.50	8.56	V	0.9	0.0	7.66	34.8	-27.1	
713.50	17.03	H	0.9	0.0	16.13	34.8	-18.6	

Band

LTE12

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 12 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	6.80	V	0.9	0.0	5.90	38.5	-32.6	
700.50	15.75	H	0.9	0.0	14.85	38.5	-23.7	
Mid Ch								
707.50	6.57	V	0.9	0.0	5.67	38.5	-32.8	
707.50	14.60	H	0.9	0.0	13.70	38.5	-24.8	
High Ch								
714.50	6.57	V	0.9	0.0	5.67	38.5	-32.8	
714.50	15.77	H	0.9	0.0	14.87	38.5	-23.6	

Band

LTE12

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 12 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	7.85	V	0.9	0.0	6.95	38.5	-31.6	
700.50	16.22	H	0.9	0.0	15.32	38.5	-23.2	
Mid Ch								
707.50	7.41	V	0.9	0.0	6.51	38.5	-32.0	
707.50	15.28	H	0.9	0.0	14.38	38.5	-24.1	
High Ch								
714.50	6.85	V	0.9	0.0	5.95	38.5	-32.6	
714.50	16.50	H	0.9	0.0	15.60	38.5	-22.9	

Band

LTE12

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	6.00	V	0.9	0.0	5.10	34.8	-29.7	
699.70	14.60	H	0.9	0.0	13.70	34.8	-21.1	
Mid Ch								
707.50	6.24	V	0.9	0.0	5.34	34.8	-29.4	
707.50	14.97	H	0.9	0.0	14.07	34.8	-20.7	
High Ch								
715.30	6.61	V	0.9	0.0	5.71	34.8	-29.1	
715.30	15.63	H	0.9	0.0	14.73	34.8	-20.0	

Band

LTE12

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	7.14	V	0.9	0.0	6.24	34.8	-28.5	
699.70	15.66	H	0.9	0.0	14.76	34.8	-20.0	
Mid Ch								
707.50	6.93	V	0.9	0.0	6.03	34.8	-28.7	
707.50	15.59	H	0.9	0.0	14.69	34.8	-20.1	
High Ch								
715.30	7.20	V	0.9	0.0	6.30	34.8	-28.5	
715.30	16.18	H	0.9	0.0	15.28	34.8	-19.5	

LTE Band 25

Band

LTE25

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	14.70	V	0.9	9.2	23.00	33.0	-10.0	
1860.00	16.10	H	0.9	9.2	24.40	33.0	-8.6	
Mid Ch								
1882.50	14.52	V	0.9	9.2	22.82	33.0	-10.2	
1882.50	16.20	H	0.9	9.2	24.50	33.0	-8.5	
High Ch								
1905.00	15.20	V	0.9	9.1	23.40	33.0	-9.6	
1905.00	16.58	H	0.9	9.1	24.78	33.0	-8.2	

Band

LTE25

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	15.40	V	0.9	9.2	23.70	33.0	-9.3	
1860.00	16.77	H	0.9	9.2	25.07	33.0	-7.9	
Mid Ch								
1882.50	15.10	V	0.9	9.2	23.40	33.0	-9.6	
1882.50	16.80	H	0.9	9.2	25.10	33.0	-7.9	
High Ch								
1905.00	15.90	V	0.9	9.1	24.10	33.0	-8.9	
1905.00	17.20	H	0.9	9.1	25.40	33.0	-7.6	

Band

LTE25

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	15.20	V	0.9	9.2	23.50	33.0	-9.5	
1857.50	15.85	H	0.9	9.2	24.15	33.0	-8.9	
Mid Ch								
1882.50	15.70	V	0.9	9.2	24.00	33.0	-9.0	
1882.50	16.10	H	0.9	9.2	24.40	33.0	-8.6	
High Ch								
1907.50	16.40	V	0.9	9.1	24.60	33.0	-8.4	
1907.50	16.50	H	0.9	9.1	24.70	33.0	-8.3	

Band

LTE25

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	15.90	V	0.9	9.2	24.20	33.0	-8.8	
1857.50	16.50	H	0.9	9.2	24.80	33.0	-8.2	
Mid Ch								
1882.50	16.40	V	0.9	9.2	24.70	33.0	-8.3	
1882.50	16.60	H	0.9	9.2	24.90	33.0	-8.1	
High Ch								
1907.50	17.10	V	0.9	9.1	25.30	33.0	-7.7	
1907.50	17.10	H	0.9	9.1	25.30	33.0	-7.7	

Band

LTE25

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	15.70	V	0.9	9.2	24.00	33.0	-9.0	
1855.00	15.60	H	0.9	9.2	23.90	33.0	-9.1	
Mid Ch								
1882.50	15.50	V	0.9	9.2	23.80	33.0	-9.2	
1882.50	16.40	H	0.9	9.2	24.70	33.0	-8.3	
High Ch								
1910.00	15.80	V	0.9	9.1	24.00	33.0	-9.0	
1910.00	16.20	H	0.9	9.1	24.40	33.0	-8.6	

Band

LTE25

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	LG
Project #:	15I20514
Date:	4/16/2015
Test Engineer:	R.Z
Configuration:	EUT Only
Location:	Chamber G
Mode:	LTE_QPSK Band 25 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	16.40	V	0.9	9.2	24.70	33.0	-8.3	
1855.00	16.42	H	0.9	9.2	24.72	33.0	-8.3	
Mid Ch								
1882.50	16.20	V	0.9	9.2	24.50	33.0	-8.5	
1882.50	17.00	H	0.9	9.2	25.30	33.0	-7.7	
High Ch								
1910.00	16.50	V	0.9	9.1	24.70	33.0	-8.3	
1910.00	16.90	H	0.9	9.1	25.10	33.0	-7.9	

Band

LTE25

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.16	V	0.9	9.2	23.46	33.0	-9.5	
1852.50	15.60	H	0.9	9.2	23.90	33.0	-9.1	
Mid Ch								
1882.50	15.80	V	0.9	9.2	24.10	33.0	-8.9	
1882.50	16.50	H	0.9	9.2	24.80	33.0	-8.2	
High Ch								
1912.50	16.00	V	0.9	9.1	24.20	33.0	-8.8	
1912.50	16.20	H	0.9	9.1	24.40	33.0	-8.6	

Band

LTE25

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 25 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	15.86	V	0.9	9.2	24.16	33.0	-8.8	
1852.50	16.30	H	0.9	9.2	24.60	33.0	-8.4	
Mid Ch								
1882.50	16.60	V	0.9	9.2	24.90	33.0	-8.1	
1882.50	17.20	H	0.9	9.2	25.50	33.0	-7.5	
High Ch								
1912.50	16.60	V	0.9	9.1	24.80	33.0	-8.2	
1912.50	16.90	H	0.9	9.1	25.10	33.0	-7.9	

Band

LTE25

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	15.30	V	0.9	9.2	23.60	33.0	-9.4	
1851.50	15.85	H	0.9	9.2	24.15	33.0	-8.9	
Mid Ch								
1882.50	16.00	V	0.9	9.2	24.30	33.0	-8.7	
1882.50	16.78	H	0.9	9.2	25.08	33.0	-7.9	
High Ch								
1913.50	15.40	V	0.9	9.1	23.60	33.0	-9.4	
1913.50	16.30	H	0.9	9.1	24.50	33.0	-8.5	

Band

LTE25

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 25 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	16.10	V	0.9	9.2	24.40	33.0	-8.6	
1851.50	16.40	H	0.9	9.2	24.70	33.0	-8.3	
Mid Ch								
1882.50	16.80	V	0.9	9.2	25.10	33.0	-7.9	
1882.50	17.39	H	0.9	9.2	25.69	33.0	-7.3	
High Ch								
1913.50	16.20	V	0.9	9.1	24.40	33.0	-8.6	
1913.50	17.00	H	0.9	9.1	25.20	33.0	-7.8	

Band

LTE25

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.10	V	0.9	9.2	23.40	33.0	-9.6	-23.5
1850.70	15.40	H	0.9	9.2	23.70	33.0	-9.3	-22.8
Mid Ch								
1882.50	15.70	V	0.9	9.2	24.00	33.0	-9.0	-23.7
1882.50	16.20	H	0.9	9.2	24.50	33.0	-8.5	-23.0
High Ch								
1914.30	16.70	V	0.9	9.1	24.90	33.0	-8.1	-23.3
1914.30	16.90	H	0.9	9.1	25.10	33.0	-7.9	-22.6

Band

LTE25

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20514
Date: 4/16/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T59, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	15.96	V	0.9	9.2	24.30	33.0	-8.7	-22.6
1850.70	16.34	H	0.9	9.2	24.68	33.0	-8.3	-21.9
Mid Ch								
1882.50	16.48	V	0.9	9.2	24.73	33.0	-8.3	-22.9
1882.50	17.03	H	0.9	9.2	25.28	33.0	-7.7	-22.2
High Ch								
1914.30	17.40	V	0.9	9.1	25.57	33.0	-7.4	-22.6
1914.30	17.70	H	0.9	9.1	25.87	33.0	-7.1	-21.8

LTE Band 26

Band

LTE26

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	LG Electronics
Project #:	15I20514
Date:	4/24/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT
Location:	Chamber C
Mode:	LTE_16QAM Band 26 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
831.50	11.35	V	0.9	0.0	10.45	38.5	-28.1	
831.50	20.21	H	0.9	0.0	19.31	38.5	-19.2	
Mid Ch								
836.50	12.69	V	0.9	0.0	11.79	38.5	-26.7	
836.50	19.87	H	0.9	0.0	18.97	38.5	-19.5	
High Ch								
841.50	12.68	V	0.9	0.0	11.78	38.5	-26.7	
841.50	20.37	H	0.9	0.0	19.47	38.5	-19.0	

Band

LTE26

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:	LG Electronics
Project #:	15I20514
Date:	4/24/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT
Location:	Chamber C
Mode:	LTE_QPSK Band 26 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
831.50	12.03	V	0.9	0.0	11.13	50.0	-38.9	
831.50	21.09	H	0.9	0.0	20.19	50.0	-29.8	
Mid Ch								
836.50	13.36	V	0.9	0.0	12.46	38.5	-26.0	
836.50	20.59	H	0.9	0.0	19.69	38.5	-18.8	
High Ch								
841.50	13.91	V	0.9	0.0	13.01	38.5	-25.5	
841.50	21.44	H	0.9	0.0	20.54	38.5	-18.0	

Band

LTE26

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 26 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	12.03	V	0.9	0.0	11.13	50.0	-38.9	
819.00	20.20	H	0.9	0.0	19.30	50.0	-30.7	
Mid Ch								
831.50	12.56	V	0.9	0.0	11.66	38.5	-26.8	
831.50	20.91	H	0.9	0.0	20.01	38.5	-18.5	
High Ch								
844.00	13.01	V	0.9	0.0	12.11	38.5	-26.4	
844.00	20.34	H	0.9	0.0	19.44	38.5	-19.1	

Band

LTE26

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 26 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	13.32	V	0.9	0.0	12.42	50.0	-37.6	
819.00	21.45	H	0.9	0.0	20.55	50.0	-29.5	
Mid Ch								
831.50	12.94	V	0.9	0.0	12.04	38.5	-26.5	
831.50	21.14	H	0.9	0.0	20.24	38.5	-18.3	
High Ch								
844.00	13.66	V	0.9	0.0	12.76	38.5	-25.7	
844.00	21.06	H	0.9	0.0	20.16	38.5	-18.3	

Band

LTE26

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 26 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
816.50	11.14	V	0.9	0.0	10.24	50.0	-39.8	
816.50	20.52	H	0.9	0.0	19.62	50.0	-30.4	
Mid Ch								
831.50	11.96	V	0.9	0.0	11.06	38.5	-27.4	
831.50	20.03	H	0.9	0.0	19.13	38.5	-19.4	
High Ch								
846.50	13.26	V	0.9	0.0	12.36	38.5	-26.1	
846.50	20.21	H	0.9	0.0	19.31	38.5	-19.2	

Band

LTE26

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 26 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
816.50	11.82	V	0.9	0.0	10.92	50.0	-39.1	
816.50	21.35	H	0.9	0.0	20.45	50.0	-29.6	
Mid Ch								
831.50	13.24	V	0.9	0.0	12.34	38.5	-26.2	
831.50	21.11	H	0.9	0.0	20.21	38.5	-18.3	
High Ch								
846.50	13.59	V	0.9	0.0	12.69	38.5	-25.8	
846.50	20.73	H	0.9	0.0	19.83	38.5	-18.7	

Band

LTE26

3MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 26 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	11.42	V	0.9	0.0	10.52	50.0	-39.5	
815.50	20.61	H	0.9	0.0	19.71	50.0	-30.3	
Mid Ch								
831.50	12.41	V	0.9	0.0	11.51	38.5	-27.0	
831.50	20.34	H	0.9	0.0	19.44	38.5	-19.1	
High Ch								
847.50	12.50	V	0.9	0.0	11.60	38.5	-26.9	
847.50	20.20	H	0.9	0.0	19.30	38.5	-19.2	

Band

LTE26

3MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 26 Fundamentals, 3MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	12.07	V	0.9	0.0	11.17	50.0	-38.8	
815.50	21.56	H	0.9	0.0	20.66	50.0	-29.3	
Mid Ch								
831.50	13.22	V	0.9	0.0	12.32	38.5	-26.2	
831.50	21.10	H	0.9	0.0	20.20	38.5	-18.3	
High Ch								
847.50	13.54	V	0.9	0.0	12.64	38.5	-25.9	
847.50	21.03	H	0.9	0.0	20.13	38.5	-18.4	

Band

LTE26

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_16QAM Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	10.80	V	0.9	0.0	9.90	50.0	-40.1	
814.70	20.01	H	0.9	0.0	19.11	50.0	-30.9	
Mid Ch								
831.50	9.33	V	0.9	0.0	8.43	38.5	-30.1	
831.50	20.62	H	0.9	0.0	19.72	38.5	-18.8	
High Ch								
848.30	11.43	V	0.9	0.0	10.53	38.5	-28.0	
848.30	18.75	H	0.9	0.0	17.85	38.5	-20.7	

Band

LTE26

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT
Location: Chamber C
Mode: LTE_QPSK Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equpment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 6ft SMA Cable Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	12.13	V	0.9	0.0	11.23	50.0	-38.8	
814.70	20.81	H	0.9	0.0	19.91	50.0	-30.1	
Mid Ch								
831.50	11.29	V	0.9	0.0	10.39	38.5	-28.1	
831.50	22.20	H	0.9	0.0	21.30	38.5	-17.2	
High Ch								
848.30	12.98	V	0.9	0.0	12.08	38.5	-26.4	
848.30	21.76	H	0.9	0.0	20.86	38.5	-17.6	

LTE Band 41

Band

LTE41

20MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 41 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2506.00	10.00	V	0.9	9.5	18.58	33.0	-14.4	-30.5
2506.00	16.40	H	0.9	9.5	24.98	33.0	-8.0	-24.3
Mid Ch								
2593.00	10.40	V	0.9	9.5	19.01	33.0	-14.0	-30.7
2593.00	16.50	H	0.9	9.5	25.11	33.0	-7.9	-24.7
High Ch								
2680.00	10.00	V	0.9	9.7	18.83	33.0	-14.2	-30.8
2680.00	15.90	H	0.9	9.7	24.73	33.0	-8.3	-25.0

Band

LTE41

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 41 Fundamentals, 20MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2506.00	10.00	V	0.9	9.5	18.58	33.0	-14.4	
2506.00	16.56	H	0.9	9.5	25.14	33.0	-7.9	
Mid Ch								
2593.00	10.70	V	0.9	9.5	19.31	33.0	-13.7	
2593.00	16.80	H	0.9	9.5	25.41	33.0	-7.6	
High Ch								
2680.00	10.40	V	0.9	9.7	19.23	33.0	-13.8	
2680.00	16.20	H	0.9	9.7	25.03	33.0	-8.0	

Band

LTE41

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 41 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	9.50	V	0.9	9.5	18.08	33.0	-14.9	
2503.50	16.00	H	0.9	9.5	24.58	33.0	-8.4	
Mid Ch								
2593.00	9.80	V	0.9	9.5	18.41	33.0	-14.6	
2593.00	16.30	H	0.9	9.5	24.91	33.0	-8.1	
High Ch								
2682.50	9.20	V	0.9	9.7	18.03	33.0	-15.0	
2682.50	15.50	H	0.9	9.7	24.33	33.0	-8.7	

Band

LTE41

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 41 Fundamentals, 15MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	9.70	V	0.9	9.5	18.28	33.0	-14.7	
2503.50	16.60	H	0.9	9.5	25.18	33.0	-7.8	
Mid Ch								
2593.00	10.10	V	0.9	9.5	18.71	33.0	-14.3	
2593.00	16.90	H	0.9	9.5	25.51	33.0	-7.5	
High Ch								
2682.50	9.40	V	0.9	9.7	18.23	33.0	-14.8	
2682.50	15.90	H	0.9	9.7	24.73	33.0	-8.3	

Band

LTE41

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 41 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	9.60	V	0.9	9.5	18.18	33.0	-14.8	
2501.00	16.58	H	0.9	9.5	25.16	33.0	-7.8	
Mid Ch								
2593.00	9.80	V	0.9	9.5	18.41	33.0	-14.6	
2593.00	16.20	H	0.9	9.5	24.81	33.0	-8.2	
High Ch								
2685.00	9.20	V	0.9	9.7	18.04	33.0	-15.0	
2685.00	15.20	H	0.9	9.7	24.04	33.0	-9.0	

Band

LTE41

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 41 Fundamentals, 10MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	9.96	V	0.9	9.5	18.54	33.0	-14.5	
2501.00	16.80	H	0.9	9.5	25.38	33.0	-7.6	
Mid Ch								
2593.00	10.40	V	0.9	9.5	19.01	33.0	-14.0	
2593.00	17.20	H	0.9	9.5	25.81	33.0	-7.2	
High Ch								
2685.00	9.60	V	0.9	9.7	18.44	33.0	-14.6	
2685.00	15.60	H	0.9	9.7	24.44	33.0	-8.6	

Band

LTE41

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_16QAM Band 41 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	9.10	V	0.9	9.5	17.67	33.0	-15.3	
2498.50	15.50	H	0.9	9.5	24.07	33.0	-8.9	
Mid Ch								
2593.00	10.20	V	0.9	9.5	18.81	33.0	-14.2	
2593.00	16.90	H	0.9	9.5	25.51	33.0	-7.5	
High Ch								
2687.50	9.50	V	0.9	9.7	18.35	33.0	-14.7	
2687.50	15.80	H	0.9	9.7	24.65	33.0	-8.4	

Band

LTE41

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20514
Date: 4/15/2015
Test Engineer: R.Z
Configuration: EUT ONLY
Location: Chamber G
Mode: LTE_QPSK Band 41 Fundamentals, 5MHz Bandwidth

Test Equpment:
Receiving: Horn T711, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	9.68	V	0.9	9.5	18.25	33.0	-14.7	
2498.50	16.36	H	0.9	9.5	24.93	33.0	-8.1	
Mid Ch								
2593.00	10.60	V	0.9	9.5	19.21	33.0	-13.8	
2593.00	18.03	H	0.9	9.5	26.63	33.0	-6.4	
High Ch								
2687.50	10.00	V	0.9	9.7	18.85	33.0	-14.2	
2687.50	16.53	H	0.9	9.7	25.37	33.0	-7.6	

9.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53 and §90.691

LIMIT

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.

Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

MODES TESTED

GSM, CDMA, WCDMA, and LTE

RESULTS

9.2.1. SPURIOUS RADIATION PLOTS

GSM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: x-pos EUT/AC Charger/ HS
Mode: EGPRS1900

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	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
GSM 1900 EGPRS	Low Ch, 1850.2MHz									
	3.700	-11.3	V	3.0	35.4	1.0	-45.7	-13.0	-32.7	
	5.551	-9.1	V	3.0	34.7	1.0	-42.8	-13.0	-29.8	
	7.401	-10.5	V	3.0	34.9	1.0	-44.5	-13.0	-31.5	
	3.700	-9.5	H	3.0	35.4	1.0	-43.9	-13.0	-30.9	
	5.551	-6.1	H	3.0	34.7	1.0	-39.8	-13.0	-26.8	
	7.401	-9.0	H	3.0	34.9	1.0	-42.9	-13.0	-29.9	
	Mid Ch, 1880.0MHz									
	3.760	-10.7	V	3.0	35.3	1.0	-45.0	-13.0	-32.0	
	5.640	-8.6	V	3.0	34.7	1.0	-42.3	-13.0	-29.3	
	7.520	-11.1	V	3.0	34.9	1.0	-45.1	-13.0	-32.1	
	3.760	-12.4	H	3.0	35.3	1.0	-46.7	-13.0	-33.7	
	5.640	-8.9	H	3.0	34.7	1.0	-42.6	-13.0	-29.6	
	7.520	-8.5	H	3.0	34.9	1.0	-42.4	-13.0	-29.4	
	High Ch, 1909.8MHz									
	3.820	-21.7	V	3.0	35.3	1.0	-56.0	-13.0	-43.0	
	5.729	-13.3	V	3.0	34.7	1.0	-47.0	-13.0	-34.0	
	7.639	-4.3	V	3.0	35.0	1.0	-38.2	-13.0	-25.2	
	3.820	-7.6	H	3.0	35.3	1.0	-41.9	-13.0	-28.9	
	5.729	-10.3	H	3.0	34.7	1.0	-44.0	-13.0	-31.0	
	7.639	-10.7	H	3.0	35.0	1.0	-44.6	-13.0	-31.6	

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

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: x-pos EUT/AC Charger/ HS
Mode: GPRS1900

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	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
GSM 1900 GPRS	Low Ch, 1850.2MHz									
	3.700	-19.3	V	3.0	35.4	1.0	-53.7	-13.0	-40.7	
	5.551	-17.8	V	3.0	34.7	1.0	-51.6	-13.0	-38.6	
	7.401	-16.3	V	3.0	34.9	1.0	-50.2	-13.0	-37.2	
	3.700	-21.6	H	3.0	35.4	1.0	-56.0	-13.0	-43.0	
	5.551	-16.3	H	3.0	34.7	1.0	-50.0	-13.0	-37.0	
	7.401	-16.3	H	3.0	34.9	1.0	-50.2	-13.0	-37.2	
	Mid Ch, 1880.0MHz									
	3.760	-17.2	V	3.0	35.3	1.0	-51.5	-13.0	-38.5	
	5.640	-19.2	V	3.0	34.7	1.0	-52.9	-13.0	-39.9	
	7.520	-17.7	V	3.0	34.9	1.0	-51.7	-13.0	-38.7	
	3.760	-19.1	H	3.0	35.3	1.0	-53.4	-13.0	-40.4	
	5.640	-17.0	H	3.0	34.7	1.0	-50.7	-13.0	-37.7	
	7.520	-15.5	H	3.0	34.9	1.0	-49.4	-13.0	-36.4	
	High Ch, 1909.8MHz									
	3.820	-20.1	V	3.0	35.3	1.0	-54.4	-13.0	-41.4	
	5.729	-18.2	V	3.0	34.7	1.0	-51.9	-13.0	-38.9	
	7.639	-17.0	V	3.0	35.0	1.0	-50.9	-13.0	-37.9	
	3.820	-21.4	H	3.0	35.3	1.0	-55.7	-13.0	-42.7	
	5.729	-17.6	H	3.0	34.7	1.0	-51.3	-13.0	-38.3	
	7.639	-15.4	H	3.0	35.0	1.0	-49.4	-13.0	-36.4	

Rev. 03.03.09

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ AC Adapter + Headset
Location: Chamber C
Mode: EGPRS 850 MHz Harmonics

Band

GSM 850

EGPRS

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
1648.40	-30.0	V	3.0	37.0	1.0	-66.0	-13.0	-53.0	
2472.60	-26.4	V	3.0	36.4	1.0	-61.8	-13.0	-48.8	
3296.80	-25.5	V	3.0	36.2	1.0	-60.7	-13.0	-47.7	
1648.40	-31.3	H	3.0	37.0	1.0	-67.4	-13.0	-54.4	
2472.60	-28.9	H	3.0	36.4	1.0	-64.3	-13.0	-51.3	
3296.80	-25.8	H	3.0	36.2	1.0	-61.0	-13.0	-48.0	
Mid Ch, 836.6									
1673.20	-30.8	V	3.0	37.0	1.0	-66.8	-13.0	-53.8	
2509.80	-26.2	V	3.0	36.4	1.0	-61.6	-13.0	-48.6	
3346.40	-26.9	V	3.0	36.1	1.0	-62.0	-13.0	-49.0	
1673.20	-30.1	H	3.0	37.0	1.0	-66.1	-13.0	-53.1	
2509.80	-27.2	H	3.0	36.4	1.0	-62.6	-13.0	-49.6	
3346.40	-25.3	H	3.0	36.1	1.0	-60.4	-13.0	-47.4	
High Ch, 848.8									
1697.60	-30.6	V	3.0	37.0	1.0	-66.6	-13.0	-53.6	
2546.40	-26.3	V	3.0	36.4	1.0	-61.7	-13.0	-48.7	
3395.20	-25.2	V	3.0	36.1	1.0	-60.3	-13.0	-47.3	
1697.60	-30.9	H	3.0	37.0	1.0	-66.9	-13.0	-53.9	
2546.40	-28.3	H	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3395.20	-26.3	H	3.0	36.1	1.0	-61.4	-13.0	-48.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: X-pos EUT w/ AC Adapter + Headset
Location: Chamber C
Mode: GPRS 850 MHz Harmonics

Band

GSM850

GPRS

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
1648.40	-30.4	V	3.0	37.0	1.0	-66.4	-13.0	-53.4	
2472.60	-26.6	V	3.0	36.4	1.0	-62.1	-13.0	-49.1	
3296.80	-25.3	V	3.0	36.2	1.0	-60.4	-13.0	-47.4	
1648.40	-28.3	H	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2472.60	-27.3	H	3.0	36.4	1.0	-62.8	-13.0	-49.8	
3296.80	-25.5	H	3.0	36.2	1.0	-60.7	-13.0	-47.7	
Mid Ch, 836.6									
1673.20	-25.8	V	3.0	37.0	1.0	-61.8	-13.0	-48.8	
2509.80	-22.2	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3346.40	-24.6	V	3.0	36.1	1.0	-59.7	-13.0	-46.7	
1673.20	-30.1	H	3.0	37.0	1.0	-66.1	-13.0	-53.1	
2509.80	-27.8	H	3.0	36.4	1.0	-63.3	-13.0	-50.3	
3346.40	-24.4	H	3.0	36.1	1.0	-59.5	-13.0	-46.5	
High Ch, 848.8									
1697.60	-24.2	V	3.0	37.0	1.0	-60.2	-13.0	-47.2	
2546.40	-21.8	V	3.0	36.4	1.0	-57.2	-13.0	-44.2	
3395.20	-19.9	V	3.0	36.1	1.0	-55.0	-13.0	-42.0	
1697.60	-26.1	H	3.0	37.0	1.0	-62.1	-13.0	-49.1	
2546.40	-24.4	H	3.0	36.4	1.0	-59.8	-13.0	-46.8	
3395.20	-21.5	H	3.0	36.1	1.0	-56.5	-13.0	-43.5	

WCDMA

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: David Mun
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: HSDPA_B2

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

Band

Band 2

HSDPA

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	-22.7	V	3.0	35.4	1.0	-57.1	-13.0	-44.1	
5.557	-19.4	V	3.0	34.7	1.0	-53.1	-13.0	-40.1	
7.410	-17.2	V	3.0	34.9	1.0	-51.1	-13.0	-38.1	
3.705	-21.2	H	3.0	35.4	1.0	-55.6	-13.0	-42.6	
5.557	-19.1	H	3.0	34.7	1.0	-52.9	-13.0	-39.9	
7.410	-16.0	H	3.0	34.9	1.0	-49.9	-13.0	-36.9	
Mid Ch, 1880MHz									
3.760	-21.7	V	3.0	35.3	1.0	-56.0	-13.0	-43.0	
5.640	-19.0	V	3.0	34.7	1.0	-52.7	-13.0	-39.7	
7.520	-17.7	V	3.0	34.9	1.0	-51.6	-13.0	-38.6	
3.760	-21.4	H	3.0	35.3	1.0	-55.8	-13.0	-42.8	
5.640	-17.8	H	3.0	34.7	1.0	-51.5	-13.0	-38.5	
7.520	-16.5	H	3.0	34.9	1.0	-50.4	-13.0	-37.4	
High Ch, 1907.6MHz									
3.815	-22.5	V	3.0	35.3	1.0	-56.8	-13.0	-43.8	
5.723	-19.0	V	3.0	34.7	1.0	-52.7	-13.0	-39.7	
7.630	-16.7	V	3.0	34.9	1.0	-50.7	-13.0	-37.7	
3.815	-22.4	H	3.0	35.3	1.0	-56.7	-13.0	-43.7	
5.723	-18.2	H	3.0	34.7	1.0	-52.0	-13.0	-39.0	
7.630	-16.3	H	3.0	34.9	1.0	-50.2	-13.0	-37.2	

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

Band

Band 2

REL99

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: Rel99_B2

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	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	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
5.557	-16.0	V	3.0	34.7	1.0	-49.7	-13.0	-36.7	
7.410	-15.9	V	3.0	34.9	1.0	-49.8	-13.0	-36.8	
3.705	-16.4	H	3.0	35.4	1.0	-50.8	-13.0	-37.8	
5.557	-13.8	H	3.0	34.7	1.0	-47.5	-13.0	-34.5	
7.410	-14.3	H	3.0	34.9	1.0	-48.2	-13.0	-35.2	
Mid Ch, 1880MHz									
3.760	-17.2	V	3.0	35.3	1.0	-51.5	-13.0	-38.5	
5.640	-17.6	V	3.0	34.7	1.0	-51.3	-13.0	-38.3	
7.520	-16.5	V	3.0	34.9	1.0	-50.5	-13.0	-37.5	
3.760	-20.9	H	3.0	35.3	1.0	-55.2	-13.0	-42.2	
5.640	-16.9	H	3.0	34.7	1.0	-50.7	-13.0	-37.7	
7.520	-14.7	H	3.0	34.9	1.0	-48.6	-13.0	-35.6	
High Ch, 1907.6MHz									
3.815	-17.7	V	3.0	35.3	1.0	-52.0	-13.0	-39.0	
5.723	-15.9	V	3.0	34.7	1.0	-49.6	-13.0	-36.6	
7.630	-15.8	V	3.0	34.9	1.0	-49.7	-13.0	-36.7	
3.815	-18.3	H	3.0	35.3	1.0	-52.5	-13.0	-39.5	
5.723	-15.7	H	3.0	34.7	1.0	-49.4	-13.0	-36.4	
7.630	-14.8	H	3.0	34.9	1.0	-48.8	-13.0	-35.8	

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

Band

Band 5

HSDPA

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 04/24/15
Test Engineer: D. Mun
Configuration: X-pos EUT, Ac Charger, Headset
Mode: HSDPA_B5

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 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									
1.653	-24.4	V	3.0	37.4	1.0	-60.7	-13.0	-47.7	
2.479	-23.1	V	3.0	36.4	1.0	-58.5	-13.0	-45.5	
3.306	-22.8	V	3.0	35.8	1.0	-57.6	-13.0	-44.6	
1.653	-25.3	H	3.0	37.4	1.0	-61.6	-13.0	-48.6	
2.479	-23.9	H	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3.306	-22.2	H	3.0	35.8	1.0	-57.0	-13.0	-44.0	
Mid Ch, 836.6MHz									
1.673	-24.6	V	3.0	37.3	1.0	-60.9	-13.0	-47.9	
2.510	-23.1	V	3.0	36.4	1.0	-58.4	-13.0	-45.4	
3.346	-21.8	V	3.0	35.8	1.0	-56.5	-13.0	-43.5	
1.673	-25.5	H	3.0	37.3	1.0	-61.8	-13.0	-48.8	
2.510	-23.5	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.346	-22.2	H	3.0	35.8	1.0	-56.9	-13.0	-43.9	
High Ch, 846.6MHz									
1.693	-23.9	V	3.0	37.3	1.0	-60.2	-13.0	-47.2	
2.540	-21.1	V	3.0	36.3	1.0	-56.5	-13.0	-43.5	
3.386	-21.2	V	3.0	35.7	1.0	-55.9	-13.0	-42.9	
1.693	-24.3	H	3.0	37.3	1.0	-60.7	-13.0	-47.7	
2.540	-24.1	H	3.0	36.3	1.0	-59.4	-13.0	-46.4	
3.386	-22.6	H	3.0	35.7	1.0	-57.3	-13.0	-44.3	

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

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 04/24/15
Test Engineer: D. Mun
Configuration: X-pos EUT, Ac Charger, Headset
Mode: REL99_B5

Chamber	Pre-amplifer	Filter	Limit
3m Chamber	T34 8449B	Filter 1	Part 22

Band

Band 5

REL99

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									
1.653	-25.8	V	3.0	37.4	1.0	-62.2	-13.0	-49.2	
2.479	-22.0	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3.306	-21.4	V	3.0	35.8	1.0	-56.2	-13.0	-43.2	
1.653	-24.7	H	3.0	37.4	1.0	-61.1	-13.0	-48.1	
2.479	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.306	-22.3	H	3.0	35.8	1.0	-57.1	-13.0	-44.1	
Mid Ch, 836.6MHz									
1.673	-28.7	V	3.0	37.3	1.0	-65.1	-13.0	-52.1	
2.510	-24.9	V	3.0	36.4	1.0	-60.3	-13.0	-47.3	
3.346	-23.6	V	3.0	35.8	1.0	-58.3	-13.0	-45.3	
1.673	-25.4	H	3.0	37.3	1.0	-61.7	-13.0	-48.7	
2.510	-24.2	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	
3.346	-21.5	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
High Ch, 846.6MHz									
1.693	-23.2	V	3.0	37.3	1.0	-59.5	-13.0	-46.5	
2.540	-21.6	V	3.0	36.3	1.0	-56.9	-13.0	-43.9	
3.386	-20.7	V	3.0	35.7	1.0	-55.4	-13.0	-42.4	
1.693	-26.5	H	3.0	37.3	1.0	-62.8	-13.0	-49.8	
2.540	-24.3	H	3.0	36.3	1.0	-59.6	-13.0	-46.6	
3.386	-22.1	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	

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

CDMA

Band

BC1

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: A. Escamilla
Configuration: EUT, AC Adapter, Headset
Location: Chamber C
Mode: CDMA EVDO BC1 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-16.9	V	3.0	35.9	1.0	-51.8	-13.0	-38.8	
5553.75	-15.0	V	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7405.00	-13.8	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
3702.50	-19.8	H	3.0	35.9	1.0	-54.7	-13.0	-41.7	
5553.75	-14.7	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7405.00	-11.9	H	3.0	35.7	1.0	-46.7	-13.0	-33.7	
Mid Ch, 1880									
3760.00	-19.2	V	3.0	35.8	1.0	-54.0	-13.0	-41.0	
5640.00	-13.0	V	3.0	35.5	1.0	-47.5	-13.0	-34.5	
7520.00	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3760.00	-18.8	H	3.0	35.8	1.0	-53.6	-13.0	-40.6	
5640.00	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7520.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
High Ch, 1908.75									
3817.50	-15.8	V	3.0	35.8	1.0	-50.5	-13.0	-37.5	
5726.25	-12.4	V	3.0	35.5	1.0	-46.9	-13.0	-33.9	
7635.00	-12.7	V	3.0	35.8	1.0	-47.5	-13.0	-34.5	
3817.50	-17.5	H	3.0	35.8	1.0	-52.3	-13.0	-39.3	
5726.25	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7635.00	-12.6	H	3.0	35.8	1.0	-47.4	-13.0	-34.4	

Band

BC1

1xRTT

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter, Headset
Location: Chamber C
Mode: CDMA 1xRTT BC1 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-17.4	V	3.0	35.9	1.0	-52.2	-13.0	-39.2	
5553.75	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7405.00	-14.1	V	3.0	35.7	1.0	-48.9	-13.0	-35.9	
3702.50	-17.2	H	3.0	35.9	1.0	-52.1	-13.0	-39.1	
5553.75	-15.7	H	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7405.00	-13.4	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	
Mid Ch, 1880									
3760.00	-15.1	V	3.0	35.8	1.0	-49.9	-13.0	-36.9	
5640.00	-13.1	V	3.0	35.5	1.0	-47.6	-13.0	-34.6	
7520.00	-12.6	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
3760.00	-17.0	H	3.0	35.8	1.0	-51.8	-13.0	-38.8	
5640.00	-14.7	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7520.00	-12.0	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	
High Ch, 1908.75									
3817.50	-17.2	V	3.0	35.8	1.0	-51.9	-13.0	-38.9	
5726.25	-16.0	V	3.0	35.5	1.0	-50.5	-13.0	-37.5	
7635.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
3817.50	-16.7	H	3.0	35.8	1.0	-51.4	-13.0	-38.4	
5726.25	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
7635.00	-13.3	H	3.0	35.8	1.0	-48.0	-13.0	-35.0	

Band

BC0

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: A. Escamilla
Configuration: EUT, AC Adapter, Headset
Location: Chamber C
Mode: CDMA EVDO BC0 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-28.0	V	3.0	37.4	1.0	-64.4	-13.0	-51.4	
2474.10	-24.8	V	3.0	36.4	1.0	-60.2	-13.0	-47.2	
3298.80	-21.6	V	3.0	35.8	1.0	-56.4	-13.0	-43.4	
1649.40	-28.8	H	3.0	37.4	1.0	-65.2	-13.0	-52.2	
2474.10	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3298.80	-21.2	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
Mid Ch, 836.52									
1673.04	-26.0	V	3.0	37.3	1.0	-62.3	-13.0	-49.3	
2509.56	-25.9	V	3.0	36.4	1.0	-61.3	-13.0	-48.3	
3346.08	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
1673.04	-28.0	H	3.0	37.3	1.0	-64.3	-13.0	-51.3	
2509.56	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3346.08	-21.9	H	3.0	35.8	1.0	-56.7	-13.0	-43.7	
High Ch, 848.31									
1696.62	-27.9	V	3.0	37.3	1.0	-64.2	-13.0	-51.2	
2544.93	-25.7	V	3.0	36.3	1.0	-61.0	-13.0	-48.0	
3393.24	-21.8	V	3.0	35.7	1.0	-56.5	-13.0	-43.5	
1696.62	-26.9	H	3.0	37.3	1.0	-63.2	-13.0	-50.2	
2544.93	-23.8	H	3.0	36.3	1.0	-59.1	-13.0	-46.1	
3393.24	-21.4	H	3.0	35.7	1.0	-56.1	-13.0	-43.1	

Band

BC0

1xRTT

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter, Headset
Location: Chamber C
Mode: CDMA 1xRTT BC0 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-24.0	V	3.0	37.4	1.0	-60.4	-13.0	-47.4	
2474.10	-23.0	V	3.0	36.4	1.0	-58.4	-13.0	-45.4	
3298.80	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
1649.40	-24.3	H	3.0	37.4	1.0	-60.7	-13.0	-47.7	
2474.10	-22.3	H	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3298.80	-19.6	H	3.0	35.8	1.0	-54.4	-13.0	-41.4	
Mid Ch, 836.52									
1673.04	-22.8	V	3.0	37.3	1.0	-59.1	-13.0	-46.1	
2509.56	-21.5	V	3.0	36.4	1.0	-56.9	-13.0	-43.9	
3346.08	-20.0	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
1673.04	-24.5	H	3.0	37.3	1.0	-60.8	-13.0	-47.8	
2509.56	-21.7	H	3.0	36.4	1.0	-57.1	-13.0	-44.1	
3346.08	-20.2	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
High Ch, 848.31									
1696.62	-23.2	V	3.0	37.3	1.0	-59.5	-13.0	-46.5	
2544.93	-21.4	V	3.0	36.3	1.0	-56.7	-13.0	-43.7	
3393.24	-18.6	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
1696.62	-23.8	H	3.0	37.3	1.0	-60.1	-13.0	-47.1	
2544.93	-20.3	H	3.0	36.3	1.0	-55.6	-13.0	-42.6	
3393.24	-19.6	H	3.0	35.7	1.0	-54.3	-13.0	-41.3	

Band

BC10

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: A. Escamilla
Configuration: EUT, AC Adapter, Headset
Location: Chamber C
Mode: CDMA EVDO BC10 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.9MHz									
1.636	-26.4	V	3.0	37.4	1.0	-62.8	-13.0	-49.8	
2.454	-22.4	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3.272	-21.1	V	3.0	35.8	1.0	-55.9	-13.0	-42.9	
1.636	-28.8	H	3.0	37.4	1.0	-65.2	-13.0	-52.2	
2.454	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3.272	-21.6	H	3.0	35.8	1.0	-56.4	-13.0	-43.4	
Mid Ch, 820.5MHz									
1.641	-24.8	V	3.0	37.3	1.0	-61.1	-13.0	-48.1	
2.462	-25.4	V	3.0	36.4	1.0	-60.8	-13.0	-47.8	
3.282	-21.5	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
1.641	-28.6	H	3.0	37.3	1.0	-64.9	-13.0	-51.9	
2.462	-23.9	H	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3.282	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
High Ch, 823.1MHz									
1.646	-24.6	V	3.0	37.3	1.0	-60.9	-13.0	-47.9	
2.469	-25.4	V	3.0	36.3	1.0	-60.7	-13.0	-47.7	
3.292	-21.1	V	3.0	35.7	1.0	-55.8	-13.0	-42.8	
1.646	-28.3	H	3.0	37.3	1.0	-64.6	-13.0	-51.6	
2.469	-23.4	H	3.0	36.3	1.0	-58.7	-13.0	-45.7	
3.292	-21.2	H	3.0	35.7	1.0	-55.9	-13.0	-42.9	

Band

BC10

1xRTT

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/24/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter, Headset
Location: Chamber C
Mode: CDMA 1xRTT BC10 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.9MHz									
1.636	-23.6	V	3.0	37.4	1.0	-60.0	-13.0	-47.0	
2.454	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3.272	-23.8	V	3.0	35.8	1.0	-58.6	-13.0	-45.6	
1.636	-25.7	H	3.0	37.4	1.0	-62.1	-13.0	-49.1	
2.454	-23.1	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
3.272	-24.8	H	3.0	35.8	1.0	-59.6	-13.0	-46.6	
Mid Ch, 820.5MHz									
1.641	-23.7	V	3.0	37.3	1.0	-60.0	-13.0	-47.0	
2.462	-23.9	V	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3.282	-23.4	V	3.0	35.8	1.0	-58.2	-13.0	-45.2	
1.641	-25.8	H	3.0	37.3	1.0	-62.1	-13.0	-49.1	
2.462	-24.1	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	
3.282	-24.9	H	3.0	35.8	1.0	-59.7	-13.0	-46.7	
High Ch, 823.1MHz									
1.646	-23.6	V	3.0	37.3	1.0	-59.9	-13.0	-46.9	
2.469	-22.8	V	3.0	36.3	1.0	-58.1	-13.0	-45.1	
3.292	-20.7	V	3.0	35.7	1.0	-55.4	-13.0	-42.4	
1.646	-24.8	H	3.0	37.3	1.0	-61.1	-13.0	-48.1	
2.469	-21.8	H	3.0	36.3	1.0	-57.1	-13.0	-44.1	
3.292	-22.0	H	3.0	35.7	1.0	-56.7	-13.0	-43.7	

LTE Band 2

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth

Band
LTE2
20MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5580.00	-15.3	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7440.00	-11.1	V	3.0	35.7	1.0	-45.8	-13.0	-32.8	
3720.00	-21.1	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
5580.00	-11.7	H	3.0	35.5	1.0	-46.2	-13.0	-33.2	
7440.00	-11.7	H	3.0	35.7	1.0	-46.4	-13.0	-33.4	
Mid Ch, 1880									
3760.00	-19.6	V	3.0	35.8	1.0	-54.4	-13.0	-41.4	
5640.00	-16.7	V	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7520.00	-10.9	V	3.0	35.7	1.0	-45.7	-13.0	-32.7	
3760.00	-20.6	H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5640.00	-16.9	H	3.0	35.5	1.0	-51.4	-13.0	-38.4	
7520.00	-9.9	H	3.0	35.7	1.0	-44.7	-13.0	-31.7	
High Ch, 1900									
3800.00	-18.8	V	3.0	35.8	1.0	-53.6	-13.0	-40.6	
5700.00	-15.5	V	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7600.00	-11.9	V	3.0	35.8	1.0	-46.7	-13.0	-33.7	
3800.00	-20.4	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5700.00	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7600.00	-12.6	H	3.0	35.8	1.0	-47.4	-13.0	-34.4	

Band

LTE2

20MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-20.3	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5580.00	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7440.00	-10.8	V	3.0	35.7	1.0	-45.5	-13.0	-32.5	
3720.00	-21.3	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5580.00	-12.9	H	3.0	35.5	1.0	-47.4	-13.0	-34.4	
7440.00	-11.5	H	3.0	35.7	1.0	-46.3	-13.0	-33.3	
Mid Ch, 1880									
3760.00	-18.0	V	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5640.00	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7520.00	-11.3	V	3.0	35.7	1.0	-46.0	-13.0	-33.0	
3760.00	-18.7	H	3.0	35.8	1.0	-53.5	-13.0	-40.5	
5640.00	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7520.00	-10.4	H	3.0	35.7	1.0	-45.2	-13.0	-32.2	
High Ch, 1900									
3800.00	-19.7	V	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5700.00	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7600.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
3800.00	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5700.00	-15.3	H	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7600.00	-12.2	H	3.0	35.8	1.0	-47.0	-13.0	-34.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth

Band
LTE2
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5572.50	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7430.00	-13.5	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
3715.00	-21.6	H	3.0	35.8	1.0	-56.4	-13.0	-43.4	
5572.50	-15.5	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7430.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1880									
3760.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5640.00	-14.2	V	3.0	35.5	1.0	-48.7	-13.0	-35.7	
7520.00	-13.5	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
3760.00	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5640.00	-16.5	H	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7520.00	-10.1	H	3.0	35.7	1.0	-44.8	-13.0	-31.8	
High Ch, 1902.5									
3805.00	-21.1	V	3.0	35.8	1.0	-55.8	-13.0	-42.8	
5707.50	-12.6	V	3.0	35.5	1.0	-47.1	-13.0	-34.1	
7610.00	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
3805.00	-21.4	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5707.50	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7610.00	-13.0	H	3.0	35.8	1.0	-47.7	-13.0	-34.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth

Band
LTE2
15MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-20.8	V	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5572.50	-16.3	V	3.0	35.5	1.0	-50.8	-13.0	-37.8	
7430.00	-13.0	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
3715.00	-21.3	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5572.50	-13.8	H	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7430.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1880									
3760.00	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5640.00	-15.8	V	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7520.00	-12.4	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
3760.00	-20.5	H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5640.00	-16.1	H	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7520.00	-11.0	H	3.0	35.7	1.0	-45.7	-13.0	-32.7	
High Ch, 1902.5									
3805.00	-19.7	V	3.0	35.8	1.0	-54.4	-13.0	-41.4	
5707.50	-12.5	V	3.0	35.5	1.0	-47.0	-13.0	-34.0	
7610.00	-12.0	V	3.0	35.8	1.0	-46.7	-13.0	-33.7	
3805.00	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5707.50	-14.0	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7610.00	-12.6	H	3.0	35.8	1.0	-47.3	-13.0	-34.3	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 10MHz Bandwidth

Band
LTE2
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-21.4	V	3.0	35.9	1.0	-56.2	-13.0	-43.2	
5565.00	-14.4	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7420.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
3710.00	-20.1	H	3.0	35.9	1.0	-55.0	-13.0	-42.0	
5565.00	-14.0	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7420.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1880									
3760.00	-21.4	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5640.00	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7520.00	-10.9	V	3.0	35.7	1.0	-45.7	-13.0	-32.7	
3760.00	-21.2	H	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5640.00	-16.5	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7520.00	-13.2	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
High Ch, 1905									
3810.00	-20.8	V	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5715.00	-15.7	V	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7620.00	-10.6	V	3.0	35.8	1.0	-45.4	-13.0	-32.4	
3810.00	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5715.00	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7620.00	-12.2	H	3.0	35.8	1.0	-46.9	-13.0	-33.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 10MHz Bandwidth

Band
LTE2
10MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-21.1	V	3.0	35.9	1.0	-56.0	-13.0	-43.0	
5565.00	-14.3	V	3.0	35.5	1.0	-48.8	-13.0	-35.8	
7420.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3710.00	-19.5	H	3.0	35.9	1.0	-54.3	-13.0	-41.3	
5565.00	-12.7	H	3.0	35.5	1.0	-47.2	-13.0	-34.2	
7420.00	-12.3	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1880									
3760.00	-21.3	V	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5640.00	-17.0	V	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7520.00	-10.6	V	3.0	35.7	1.0	-45.3	-13.0	-32.3	
3760.00	-20.4	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5640.00	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7520.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
High Ch, 1905									
3810.00	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5715.00	-16.4	V	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7620.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
3810.00	-21.0	H	3.0	35.8	1.0	-55.8	-13.0	-42.8	
5715.00	-15.7	H	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7620.00	-12.8	H	3.0	35.8	1.0	-47.6	-13.0	-34.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 5MHz Bandwidth

Band
LTE2
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-21.1	V	3.0	35.9	1.0	-55.9	-13.0	-42.9	
5557.50	-16.9	V	3.0	35.5	1.0	-51.4	-13.0	-38.4	
7410.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3705.00	-18.4	H	3.0	35.9	1.0	-53.2	-13.0	-40.2	
5557.50	-15.6	H	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7410.00	-13.2	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
Mid Ch, 1880									
3760.00	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5640.00	-17.2	V	3.0	35.5	1.0	-51.7	-13.0	-38.7	
7520.00	-11.5	V	3.0	35.7	1.0	-46.3	-13.0	-33.3	
3760.00	-21.7	H	3.0	35.8	1.0	-56.5	-13.0	-43.5	
5640.00	-17.0	H	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7520.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
High Ch, 1907.5									
3815.00	-18.3	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5722.50	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7630.00	-10.1	V	3.0	35.8	1.0	-44.9	-13.0	-31.9	
3815.00	-21.2	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5722.50	-14.4	H	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7630.00	-13.0	H	3.0	35.8	1.0	-47.7	-13.0	-34.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 5MHz Bandwidth

Band
LTE2
5MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-20.7	V	3.0	35.9	1.0	-55.5	-13.0	-42.5	
5557.50	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7410.00	-13.9	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
3705.00	-18.5	H	3.0	35.9	1.0	-53.3	-13.0	-40.3	
5557.50	-14.6	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7410.00	-12.6	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
Mid Ch, 1880									
3760.00	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5640.00	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7520.00	-12.5	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
3760.00	-20.6	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5640.00	-17.1	H	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7520.00	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
High Ch, 1907.5									
3815.00	-18.6	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
5722.50	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7630.00	-14.8	V	3.0	35.8	1.0	-49.6	-13.0	-36.6	
3815.00	-20.3	H	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5722.50	-14.7	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7630.00	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 3MHz Bandwidth

Band
LTE2
3MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-19.7	V	3.0	35.9	1.0	-54.5	-13.0	-41.5	
5554.50	-15.9	V	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7406.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3703.00	-14.9	H	3.0	35.9	1.0	-49.7	-13.0	-36.7	
5554.50	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7406.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
Mid Ch, 1880									
3760.00	-20.7	V	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5640.00	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7520.00	-13.5	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3760.00	-21.7	H	3.0	35.8	1.0	-56.6	-13.0	-43.6	
5640.00	-17.1	H	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7520.00	-12.7	H	3.0	35.7	1.0	-47.5	-13.0	-34.5	
High Ch, 1908.5									
3817.00	-19.7	V	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5725.50	-16.4	V	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7634.00	-11.4	V	3.0	35.8	1.0	-46.2	-13.0	-33.2	
3817.00	-20.3	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5725.50	-16.1	H	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7634.00	-11.6	H	3.0	35.8	1.0	-46.4	-13.0	-33.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 3MHz Bandwidth

Band
LTE2
3MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-18.8	V	3.0	35.9	1.0	-53.7	-13.0	-40.7	
5554.50	-16.4	V	3.0	35.5	1.0	-50.8	-13.0	-37.8	
7406.00	-12.8	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
3703.00	-16.1	H	3.0	35.9	1.0	-50.9	-13.0	-37.9	
5554.50	-17.0	H	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7406.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1880									
3760.00	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5640.00	-17.2	V	3.0	35.5	1.0	-51.7	-13.0	-38.7	
7520.00	-13.1	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
3760.00	-21.1	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5640.00	-16.7	H	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7520.00	-12.5	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
High Ch, 1908.5									
3817.00	-18.3	V	3.0	35.8	1.0	-53.1	-13.0	-40.1	
5725.50	-15.0	V	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7634.00	-11.3	V	3.0	35.8	1.0	-46.0	-13.0	-33.0	
3817.00	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5725.50	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7634.00	-12.8	H	3.0	35.8	1.0	-47.5	-13.0	-34.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.7									
LTE2	3701.40	-21.1	V	3.0	35.9	1.0	-55.9	-13.0	-42.9	
	5552.10	-15.4	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
	7402.80	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
1.4MHz	3701.40	-17.9	H	3.0	35.9	1.0	-52.8	-13.0	-39.8	
	5552.10	-14.5	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
	7402.80	-11.2	H	3.0	35.7	1.0	-45.9	-13.0	-32.9	
16QAM	Mid Ch, 1880									
	3760.00	-21.5	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
	5640.00	-16.1	V	3.0	35.5	1.0	-50.6	-13.0	-37.6	
	7520.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
	3760.00	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
	5640.00	-13.8	H	3.0	35.5	1.0	-48.3	-13.0	-35.3	
	7520.00	-10.6	H	3.0	35.7	1.0	-45.4	-13.0	-32.4	
	High Ch, 1909.3									
	3818.60	-16.6	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
	5727.90	-12.2	V	3.0	35.5	1.0	-46.7	-13.0	-33.7	
	7637.20	-12.0	V	3.0	35.8	1.0	-46.8	-13.0	-33.8	
	3818.60	-20.2	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
	5727.90	-16.4	H	3.0	35.5	1.0	-50.9	-13.0	-37.9	
	7637.20	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	

Band
LTE2
1.4MHz
QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-20.8	V	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5552.10	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7402.80	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
3701.40	-17.4	H	3.0	35.9	1.0	-52.2	-13.0	-39.2	
5552.10	-15.1	H	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7402.80	-11.0	H	3.0	35.7	1.0	-45.7	-13.0	-32.7	
Mid Ch, 1880									
3760.00	-19.8	V	3.0	35.8	1.0	-54.6	-13.0	-41.6	
5640.00	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7520.00	-14.3	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3760.00	-19.9	H	3.0	35.8	1.0	-54.7	-13.0	-41.7	
5640.00	-13.3	H	3.0	35.5	1.0	-47.8	-13.0	-34.8	
7520.00	-12.1	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	
High Ch, 1909.3									
3818.60	-16.2	V	3.0	35.8	1.0	-50.9	-13.0	-37.9	
5727.90	-12.5	V	3.0	35.5	1.0	-47.0	-13.0	-34.0	
7637.20	-12.6	V	3.0	35.8	1.0	-47.3	-13.0	-34.3	
3818.60	-19.9	H	3.0	35.8	1.0	-54.6	-13.0	-41.6	
5727.90	-16.8	H	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7637.20	-12.3	H	3.0	35.8	1.0	-47.1	-13.0	-34.1	

LTE Band 4

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth

Band
LTE4
20MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720									
3440.00	-18.4	V	3.0	36.0	1.0	-53.5	-13.0	-40.5	
5160.00	-17.6	V	3.0	35.4	1.0	-52.0	-13.0	-39.0	
6880.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
3440.00	-13.0	H	3.0	36.0	1.0	-48.1	-13.0	-35.1	
5160.00	-17.8	H	3.0	35.4	1.0	-52.2	-13.0	-39.2	
6880.00	-14.3	H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
Mid Ch, 1732.5									
3465.00	-11.1	V	3.0	36.0	1.0	-46.2	-13.0	-33.2	
5197.50	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
3465.00	-20.8	H	3.0	36.0	1.0	-55.8	-13.0	-42.8	
5197.50	-17.2	H	3.0	35.4	1.0	-51.6	-13.0	-38.6	
6930.00	-13.6	H	3.0	35.7	1.0	-48.3	-13.0	-35.3	
High Ch, 1745									
3490.00	-10.1	V	3.0	36.0	1.0	-45.1	-13.0	-32.1	
5235.00	-15.8	V	3.0	35.4	1.0	-50.2	-13.0	-37.2	
6980.00	-13.2	V	3.0	35.7	1.0	-47.9	-13.0	-34.9	
3490.00	-13.7	H	3.0	36.0	1.0	-48.7	-13.0	-35.7	
5235.00	-16.4	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
6980.00	-12.5	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1720									
	3440.00	-20.4	V	3.0	36.0	1.0	-55.5	-13.0	-42.5	
LTE4	5160.00	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
	6880.00	-14.8	V	3.0	35.7	1.0	-49.5	-13.0	-36.5	
	3440.00	-13.4	H	3.0	36.0	1.0	-48.5	-13.0	-35.5	
20MHz	5160.00	-17.6	H	3.0	35.4	1.0	-52.0	-13.0	-39.0	
	6880.00	-13.0	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	Mid Ch, 1732.5									
QPSK	3465.00	-10.1	V	3.0	36.0	1.0	-45.1	-13.0	-32.1	
	5197.50	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
	6930.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
	3465.00	-20.9	H	3.0	36.0	1.0	-55.9	-13.0	-42.9	
	5197.50	-16.5	H	3.0	35.4	1.0	-51.0	-13.0	-38.0	
	6930.00	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
	High Ch, 1745									
	3490.00	-9.2	V	3.0	36.0	1.0	-44.3	-13.0	-31.3	
	5235.00	-14.6	V	3.0	35.4	1.0	-49.0	-13.0	-36.0	
	6980.00	-12.5	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
	3490.00	-11.7	H	3.0	36.0	1.0	-46.7	-13.0	-33.7	
	5235.00	-16.7	H	3.0	35.4	1.0	-51.1	-13.0	-38.1	
	6980.00	-11.3	H	3.0	35.7	1.0	-46.0	-13.0	-33.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1717.5									
	3435.00	-9.6	V	3.0	36.1	1.0	-44.7	-13.0	-31.7	
LTE4	5152.50	-16.5	V	3.0	35.4	1.0	-50.9	-13.0	-37.9	
	6870.00	-13.1	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
	3435.00	-11.3	H	3.0	36.1	1.0	-46.3	-13.0	-33.3	
15MHz	5152.50	-16.5	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
	6870.00	-13.8	H	3.0	35.7	1.0	-48.4	-13.0	-35.4	
	Mid Ch, 1732.5									
16QAM	3465.00	-19.6	V	3.0	36.0	1.0	-54.6	-13.0	-41.6	
	5197.50	-19.1	V	3.0	35.4	1.0	-53.5	-13.0	-40.5	
	6930.00	-13.7	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
	3465.00	-21.8	H	3.0	36.0	1.0	-56.8	-13.0	-43.8	
	5197.50	-17.9	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
	6930.00	-12.7	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
	High Ch, 1747.5									
	3495.00	-9.8	V	3.0	36.0	1.0	-44.8	-13.0	-31.8	
	5242.50	-15.8	V	3.0	35.4	1.0	-50.3	-13.0	-37.3	
	6990.00	-11.3	V	3.0	35.7	1.0	-46.0	-13.0	-33.0	
	3495.00	-11.3	H	3.0	36.0	1.0	-46.3	-13.0	-33.3	
	5242.50	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
	6990.00	-12.1	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1717.5									
	3435.00	-8.7	V	3.0	36.1	1.0	-43.7	-13.0	-30.7	
LTE4	5152.50	-17.7	V	3.0	35.4	1.0	-52.1	-13.0	-39.1	
	6870.00	-14.7	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
	3435.00	-12.0	H	3.0	36.1	1.0	-47.0	-13.0	-34.0	
15MHz	5152.50	-17.9	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
	6870.00	-13.6	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	
	Mid Ch, 1732.5									
QPSK	3465.00	-19.3	V	3.0	36.0	1.0	-54.3	-13.0	-41.3	
	5197.50	-18.1	V	3.0	35.4	1.0	-52.6	-13.0	-39.6	
	6930.00	-13.8	V	3.0	35.7	1.0	-48.5	-13.0	-35.5	
	3465.00	-20.7	H	3.0	36.0	1.0	-55.7	-13.0	-42.7	
	5197.50	-17.4	H	3.0	35.4	1.0	-51.8	-13.0	-38.8	
	6930.00	-13.5	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	
	High Ch, 1747.5									
	3495.00	-10.9	V	3.0	36.0	1.0	-45.9	-13.0	-32.9	
	5242.50	-16.8	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
	6990.00	-13.3	V	3.0	35.7	1.0	-48.0	-13.0	-35.0	
	3495.00	-12.2	H	3.0	36.0	1.0	-47.2	-13.0	-34.2	
	5242.50	-15.7	H	3.0	35.4	1.0	-50.2	-13.0	-37.2	
	6990.00	-12.2	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1715									
	3430.00	-8.4	V	3.0	36.1	1.0	-43.5	-13.0	-30.5	
LTE4	5145.00	-15.7	V	3.0	35.4	1.0	-50.1	-13.0	-37.1	
	6860.00	-14.8	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
	3430.00	-11.9	H	3.0	36.1	1.0	-46.9	-13.0	-33.9	
10MHz	5145.00	-15.6	H	3.0	35.4	1.0	-50.0	-13.0	-37.0	
	6860.00	-12.2	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	
	Mid Ch, 1732.5									
16QAM	3465.00	-14.1	V	3.0	36.0	1.0	-49.2	-13.0	-36.2	
	5197.50	-15.8	V	3.0	35.4	1.0	-50.2	-13.0	-37.2	
	6930.00	-12.4	V	3.0	35.7	1.0	-47.1	-13.0	-34.1	
	3465.00	-10.2	H	3.0	36.0	1.0	-45.2	-13.0	-32.2	
	5197.50	-16.9	H	3.0	35.4	1.0	-51.4	-13.0	-38.4	
	6930.00	-12.6	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
	High Ch, 1750									
	3500.00	-7.6	V	3.0	36.0	1.0	-42.6	-13.0	-29.6	
	5250.00	-16.7	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
	7000.00	-13.0	V	3.0	35.7	1.0	-47.7	-13.0	-34.7	
	3500.00	-11.0	H	3.0	36.0	1.0	-46.0	-13.0	-33.0	
	5250.00	-14.0	H	3.0	35.4	1.0	-48.4	-13.0	-35.4	
	7000.00	-11.2	H	3.0	35.7	1.0	-45.9	-13.0	-32.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1715									
	3430.00	-8.6	V	3.0	36.1	1.0	-43.7	-13.0	-30.7	
LTE4	5145.00	-16.1	V	3.0	35.4	1.0	-50.6	-13.0	-37.6	
	6860.00	-13.8	V	3.0	35.7	1.0	-48.5	-13.0	-35.5	
10MHz	3430.00	-11.1	H	3.0	36.1	1.0	-46.2	-13.0	-33.2	
	5145.00	-15.2	H	3.0	35.4	1.0	-49.6	-13.0	-36.6	
	6860.00	-12.8	H	3.0	35.7	1.0	-47.5	-13.0	-34.5	
QPSK	Mid Ch, 1732.5									
	3465.00	-14.3	V	3.0	36.0	1.0	-49.4	-13.0	-36.4	
	5197.50	-16.8	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
	6930.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
	3465.00	-10.4	H	3.0	36.0	1.0	-45.5	-13.0	-32.5	
	5197.50	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
	6930.00	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
	High Ch, 1750									
	3500.00	-7.7	V	3.0	36.0	1.0	-42.7	-13.0	-29.7	
	5250.00	-16.7	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	
	7000.00	-13.3	V	3.0	35.7	1.0	-48.0	-13.0	-35.0	
	3500.00	-10.8	H	3.0	36.0	1.0	-45.8	-13.0	-32.8	
	5250.00	-14.2	H	3.0	35.4	1.0	-48.7	-13.0	-35.7	
	7000.00	-12.3	H	3.0	35.7	1.0	-47.0	-13.0	-34.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1712.5									
LTE4	3425.00	-11.8	V	3.0	36.1	1.0	-46.9	-13.0	-33.9	
	5137.50	-18.1	V	3.0	35.4	1.0	-52.5	-13.0	-39.5	
	6850.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
5MHz	3425.00	-12.6	H	3.0	36.1	1.0	-47.6	-13.0	-34.6	
	5137.50	-17.8	H	3.0	35.4	1.0	-52.2	-13.0	-39.2	
	6850.00	-12.6	H	3.0	35.7	1.0	-47.2	-13.0	-34.2	
16QAM	Mid Ch, 1732.5									
	3465.00	-21.7	V	3.0	36.0	1.0	-56.7	-13.0	-43.7	
	5197.50	-15.7	V	3.0	35.4	1.0	-50.1	-13.0	-37.1	
	6930.00	-13.3	V	3.0	35.7	1.0	-47.9	-13.0	-34.9	
	3465.00	-19.3	H	3.0	36.0	1.0	-54.4	-13.0	-41.4	
	5197.50	-14.7	H	3.0	35.4	1.0	-49.1	-13.0	-36.1	
	6930.00	-12.1	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	
	High Ch, 1752.5									
	3505.00	-16.2	V	3.0	36.0	1.0	-51.2	-13.0	-38.2	
	5257.50	-14.5	V	3.0	35.4	1.0	-49.0	-13.0	-36.0	
	7010.00	-12.9	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	3505.00	-20.5	H	3.0	36.0	1.0	-55.5	-13.0	-42.5	
	5257.50	-15.2	H	3.0	35.4	1.0	-49.6	-13.0	-36.6	
	7010.00	-13.2	H	3.0	35.7	1.0	-47.9	-13.0	-34.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1712.5									
	3425.00	-12.2	V	3.0	36.1	1.0	-47.3	-13.0	-34.3	
LTE4	5137.50	-18.1	V	3.0	35.4	1.0	-52.5	-13.0	-39.5	
	6850.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
	3425.00	-13.6	H	3.0	36.1	1.0	-48.6	-13.0	-35.6	
5MHz	5137.50	-18.0	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
	6850.00	-12.5	H	3.0	35.7	1.0	-47.2	-13.0	-34.2	
QPSK	Mid Ch, 1732.5									
	3465.00	-20.8	V	3.0	36.0	1.0	-55.9	-13.0	-42.9	
	5197.50	-15.6	V	3.0	35.4	1.0	-50.1	-13.0	-37.1	
	6930.00	-12.4	V	3.0	35.7	1.0	-47.1	-13.0	-34.1	
	3465.00	-19.5	H	3.0	36.0	1.0	-54.5	-13.0	-41.5	
	5197.50	-13.8	H	3.0	35.4	1.0	-48.3	-13.0	-35.3	
	6930.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
	High Ch, 1752.5									
	3505.00	-16.6	V	3.0	36.0	1.0	-51.6	-13.0	-38.6	
	5257.50	-14.9	V	3.0	35.4	1.0	-49.3	-13.0	-36.3	
	7010.00	-13.3	V	3.0	35.7	1.0	-48.0	-13.0	-35.0	
	3505.00	-21.6	H	3.0	36.0	1.0	-56.6	-13.0	-43.6	
	5257.50	-14.4	H	3.0	35.4	1.0	-48.8	-13.0	-35.8	
	7010.00	-12.2	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1711.5									
	3423.00	-17.9	V	3.0	36.1	1.0	-52.9	-13.0	-39.9	
LTE4	5134.50	-16.4	V	3.0	35.4	1.0	-50.9	-13.0	-37.9	
	6846.00	-13.9	V	3.0	35.7	1.0	-48.5	-13.0	-35.5	
3MHz	3423.00	-9.0	H	3.0	36.1	1.0	-44.1	-13.0	-31.1	
	5134.50	-15.7	H	3.0	35.4	1.0	-50.2	-13.0	-37.2	
	6846.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
16QAM	Mid Ch, 1732.5									
	3465.00	-17.6	V	3.0	36.0	1.0	-52.6	-13.0	-39.6	
	5197.50	-17.0	V	3.0	35.4	1.0	-51.4	-13.0	-38.4	
	6930.00	-13.0	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	3465.00	-4.9	H	3.0	36.0	1.0	-39.9	-13.0	-26.9	
	5197.50	-17.9	H	3.0	35.4	1.0	-52.3	-13.0	-39.3	
	6930.00	-12.8	H	3.0	35.7	1.0	-47.5	-13.0	-34.5	
	High Ch, 1753.5									
	3507.00	-12.5	V	3.0	36.0	1.0	-47.5	-13.0	-34.5	
	5260.50	-15.1	V	3.0	35.4	1.0	-49.5	-13.0	-36.5	
	7014.00	-13.4	V	3.0	35.7	1.0	-48.1	-13.0	-35.1	
	3507.00	-2.0	H	3.0	36.0	1.0	-37.0	-13.0	-24.0	
	5260.50	-16.1	H	3.0	35.4	1.0	-50.5	-13.0	-37.5	
	7014.00	-12.2	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1710.7									
	3421.40	-6.0	V	3.0	36.1	1.0	-41.1	-13.0	-28.1	
LTE4	5132.10	-17.8	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
	6842.80	-12.9	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	3421.40	-7.5	H	3.0	36.1	1.0	-42.6	-13.0	-29.6	
3MHz	5132.10	-17.5	H	3.0	35.4	1.0	-52.0	-13.0	-39.0	
	6842.80	-12.8	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
	Mid Ch, 1732.5									
QPSK	3465.00	-13.6	V	3.0	36.0	1.0	-48.6	-13.0	-35.6	
	5197.50	-14.4	V	3.0	35.4	1.0	-48.9	-13.0	-35.9	
	6930.00	-12.4	V	3.0	35.7	1.0	-47.1	-13.0	-34.1	
	3465.00	-10.1	H	3.0	36.0	1.0	-45.1	-13.0	-32.1	
	5197.50	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
	6930.00	-11.3	H	3.0	35.7	1.0	-46.0	-13.0	-33.0	
	High Ch, 1754.3									
	3508.60	-10.3	V	3.0	36.0	1.0	-45.3	-13.0	-32.3	
	5262.90	-17.5	V	3.0	35.4	1.0	-52.0	-13.0	-39.0	
	7017.20	-12.9	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	3508.60	-15.9	H	3.0	36.0	1.0	-50.9	-13.0	-37.9	
	5262.90	-17.3	H	3.0	35.4	1.0	-51.8	-13.0	-38.8	
	7017.20	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth

Band
LTE4
1.4MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7									
3421.40	-5.5	V	3.0	36.1	1.0	-40.6	-13.0	-27.6	
5132.10	-18.5	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
6842.80	-13.6	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
3421.40	-6.8	H	3.0	36.1	1.0	-41.9	-13.0	-28.9	
5132.10	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
6842.80	-12.8	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
Mid Ch, 1732.5									
3465.00	-12.9	V	3.0	36.0	1.0	-47.9	-13.0	-34.9	
5197.50	-12.8	V	3.0	35.4	1.0	-47.3	-13.0	-34.3	
6930.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3465.00	-9.2	H	3.0	36.0	1.0	-44.2	-13.0	-31.2	
5197.50	-16.5	H	3.0	35.4	1.0	-51.0	-13.0	-38.0	
6930.00	-12.2	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	
High Ch, 1754.3									
3508.60	-10.7	V	3.0	36.0	1.0	-45.7	-13.0	-32.7	
5262.90	-17.5	V	3.0	35.4	1.0	-52.0	-13.0	-39.0	
7017.20	-13.3	V	3.0	35.7	1.0	-48.0	-13.0	-35.0	
3508.60	-15.4	H	3.0	36.0	1.0	-50.4	-13.0	-37.4	
5262.90	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
7017.20	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/22/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1710.7									
LTE4	3421.40	-5.5	V	3.0	36.1	1.0	-40.6	-13.0	-27.6	
	5132.10	-18.5	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
	6842.80	-13.6	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
1.4MHz	3421.40	-6.8	H	3.0	36.1	1.0	-41.9	-13.0	-28.9	
	5132.10	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
	6842.80	-12.8	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
QPSK	Mid Ch, 1732.5									
	3465.00	-12.9	V	3.0	36.0	1.0	-47.9	-13.0	-34.9	
	5197.50	-12.8	V	3.0	35.4	1.0	-47.3	-13.0	-34.3	
	6930.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
	3465.00	-9.2	H	3.0	36.0	1.0	-44.2	-13.0	-31.2	
	5197.50	-16.5	H	3.0	35.4	1.0	-51.0	-13.0	-38.0	
	6930.00	-12.2	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	
	High Ch, 1754.3									
	3508.60	-10.7	V	3.0	36.0	1.0	-45.7	-13.0	-32.7	
	5262.90	-17.5	V	3.0	35.4	1.0	-52.0	-13.0	-39.0	
	7017.20	-13.3	V	3.0	35.7	1.0	-48.0	-13.0	-35.0	
	3508.60	-15.4	H	3.0	36.0	1.0	-50.4	-13.0	-37.4	
	5262.90	-16.9	H	3.0	35.4	1.0	-51.3	-13.0	-38.3	
	7017.20	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	

LTE Band 5

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth

Band
LTE5
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829									
1658.00	-28.7	V	3.0	37.0	1.0	-64.7	-13.0	-51.7	
2487.00	-22.8	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3316.00	-23.0	V	3.0	36.2	1.0	-58.2	-13.0	-45.2	
1658.00	-28.4	H	3.0	37.0	1.0	-64.5	-13.0	-51.5	
2487.00	-25.5	H	3.0	36.4	1.0	-60.9	-13.0	-47.9	
3316.00	-23.0	H	3.0	36.2	1.0	-58.1	-13.0	-45.1	
Mid Ch, 836.5									
1673.00	-28.1	V	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2509.50	-21.6	V	3.0	36.4	1.0	-57.1	-13.0	-44.1	
3346.00	-22.2	V	3.0	36.1	1.0	-57.3	-13.0	-44.3	
1673.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2509.50	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3346.00	-22.8	H	3.0	36.1	1.0	-58.0	-13.0	-45.0	
High Ch, 844									
1688.00	-28.3	V	3.0	37.0	1.0	-64.2	-13.0	-51.2	
2532.00	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
3376.00	-22.8	V	3.0	36.1	1.0	-57.9	-13.0	-44.9	
1688.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2532.00	-23.9	H	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3376.00	-23.2	H	3.0	36.1	1.0	-58.3	-13.0	-45.3	

Band

LTE5

10MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829									
1658.00	-27.9	V	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2487.00	-24.2	V	3.0	36.4	1.0	-59.6	-13.0	-46.6	
3316.00	-22.9	V	3.0	36.2	1.0	-58.1	-13.0	-45.1	
1658.00	-28.5	H	3.0	37.0	1.0	-64.6	-13.0	-51.6	
2487.00	-24.7	H	3.0	36.4	1.0	-60.1	-13.0	-47.1	
3316.00	-23.0	H	3.0	36.2	1.0	-58.2	-13.0	-45.2	
Mid Ch, 836.5									
1673.00	-28.7	V	3.0	37.0	1.0	-64.7	-13.0	-51.7	
2509.50	-22.6	V	3.0	36.4	1.0	-58.0	-13.0	-45.0	
3346.00	-22.8	V	3.0	36.1	1.0	-57.9	-13.0	-44.9	
1673.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2509.50	-22.4	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3346.00	-22.9	H	3.0	36.1	1.0	-58.1	-13.0	-45.1	
High Ch, 844									
1688.00	-28.5	V	3.0	37.0	1.0	-64.5	-13.0	-51.5	
2532.00	-23.3	V	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3376.00	-22.2	V	3.0	36.1	1.0	-57.2	-13.0	-44.2	
1688.00	-27.7	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2532.00	-23.6	H	3.0	36.4	1.0	-59.0	-13.0	-46.0	
3376.00	-22.5	H	3.0	36.1	1.0	-57.5	-13.0	-44.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth

Band LTE5 5MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
1653.00	-27.4	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2479.50	-22.1	V	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3306.00	-21.8	V	3.0	36.2	1.0	-57.0	-13.0	-44.0	
1653.00	-27.1	H	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2479.50	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3306.00	-21.6	H	3.0	36.2	1.0	-56.8	-13.0	-43.8	
Mid Ch, 836.5									
1673.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2509.50	-20.5	V	3.0	36.4	1.0	-55.9	-13.0	-42.9	
3346.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1673.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-22.3	H	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3346.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 846.5									
1693.00	-26.4	V	3.0	37.0	1.0	-62.3	-13.0	-49.3	
2539.50	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
3386.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
1693.00	-26.9	H	3.0	37.0	1.0	-62.9	-13.0	-49.9	
2539.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3386.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth

Band LTE5 5MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
1653.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2479.50	-21.3	V	3.0	36.4	1.0	-56.8	-13.0	-43.8	
3306.00	-22.4	V	3.0	36.2	1.0	-57.5	-13.0	-44.5	
1653.00	-27.2	H	3.0	37.0	1.0	-63.3	-13.0	-50.3	
2479.50	-23.0	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
3306.00	-22.0	H	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 836.5									
1673.00	-27.1	V	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2509.50	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3346.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1673.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-22.7	H	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3346.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 846.5									
1693.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2539.50	-21.1	V	3.0	36.4	1.0	-56.5	-13.0	-43.5	
3386.00	-21.1	V	3.0	36.1	1.0	-56.2	-13.0	-43.2	
1693.00	-26.9	H	3.0	37.0	1.0	-62.9	-13.0	-49.9	
2539.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3386.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

Band

LTE5

3MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5									
1651.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2476.50	-22.9	V	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3302.00	-22.1	V	3.0	36.2	1.0	-57.2	-13.0	-44.2	
1651.00	-27.2	H	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2476.50	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3302.00	-21.0	H	3.0	36.2	1.0	-56.2	-13.0	-43.2	
Mid Ch, 836.5									
1673.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2509.50	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
3346.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1673.00	-27.5	H	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2509.50	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3346.00	-22.4	H	3.0	36.1	1.0	-57.5	-13.0	-44.5	
High Ch, 847.5									
1695.00	-26.3	V	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2542.50	-21.1	V	3.0	36.4	1.0	-56.5	-13.0	-43.5	
3390.00	-21.4	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
1695.00	-27.1	H	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2542.50	-22.4	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3390.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

Band LTE5 3MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5									
1651.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2476.50	-21.5	V	3.0	36.4	1.0	-56.9	-13.0	-43.9	
3302.00	-21.7	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1651.00	-27.8	H	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2476.50	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3302.00	-22.0	H	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 836.5									
1673.00	-26.4	V	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2509.50	-20.7	V	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3346.00	-20.6	V	3.0	36.1	1.0	-55.7	-13.0	-42.7	
1673.00	-27.0	H	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2509.50	-22.2	H	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3346.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 847.5									
1695.00	-26.7	V	3.0	37.0	1.0	-62.6	-13.0	-49.6	
2542.50	-20.8	V	3.0	36.4	1.0	-56.2	-13.0	-43.2	
3390.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
1695.00	-26.4	H	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2542.50	-22.0	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3390.00	-20.5	H	3.0	36.1	1.0	-55.6	-13.0	-42.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 5 Harmonics, 1.4MHz Bandwidth

Band LTE5 1.4MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-27.1	V	3.0	37.1	1.0	-63.2	-13.0	-50.2	
2474.10	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3298.80	-21.2	V	3.0	36.2	1.0	-56.4	-13.0	-43.4	
1649.40	-27.6	H	3.0	37.1	1.0	-63.7	-13.0	-50.7	
2474.10	-22.1	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3298.80	-22.5	H	3.0	36.2	1.0	-57.7	-13.0	-44.7	
Mid Ch, 836.5									
1673.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2509.50	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3346.00	-22.3	V	3.0	36.1	1.0	-57.4	-13.0	-44.4	
1673.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-23.8	H	3.0	36.4	1.0	-59.2	-13.0	-46.2	
3346.00	-23.4	H	3.0	36.1	1.0	-58.5	-13.0	-45.5	
High Ch, 848.3									
1696.60	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2544.90	-22.4	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3393.20	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1696.60	-27.3	H	3.0	37.0	1.0	-63.3	-13.0	-50.3	
2544.90	-22.6	H	3.0	36.4	1.0	-58.0	-13.0	-45.0	
3393.20	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth

Band: LTE5 1.4MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-27.0	V	3.0	37.1	1.0	-63.1	-13.0	-50.1	
2474.10	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3298.80	-21.1	V	3.0	36.2	1.0	-56.3	-13.0	-43.3	
1649.40	-26.7	H	3.0	37.1	1.0	-62.7	-13.0	-49.7	
2474.10	-23.5	H	3.0	36.4	1.0	-59.0	-13.0	-46.0	
3298.80	-21.9	H	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 836.5									
1673.00	-27.4	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-25.1	V	3.0	36.4	1.0	-60.6	-13.0	-47.6	
3346.00	-21.3	V	3.0	36.1	1.0	-56.4	-13.0	-43.4	
1673.00	-26.1	H	3.0	37.0	1.0	-62.1	-13.0	-49.1	
2509.50	-23.0	H	3.0	36.4	1.0	-58.4	-13.0	-45.4	
3346.00	-20.9	H	3.0	36.1	1.0	-56.0	-13.0	-43.0	
High Ch, 848.3									
1696.60	-25.4	V	3.0	37.0	1.0	-61.4	-13.0	-48.4	
2544.90	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3393.20	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
1696.60	-26.7	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-21.8	H	3.0	36.4	1.0	-57.2	-13.0	-44.2	
3393.20	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

LTE Band 12

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch,704									
LTE12	1408.00	-29.9	V	3.0	37.4	1.0	-66.3	-13.0	-53.3	
	2112.00	-20.6	V	3.0	36.6	1.0	-56.2	-13.0	-43.2	
10MHz	2816.00	-22.8	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
	1408.00	-28.8	H	3.0	37.4	1.0	-65.2	-13.0	-52.2	
16QAM	2112.00	-24.2	H	3.0	36.6	1.0	-59.8	-13.0	-46.8	
	2816.00	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
	Mid Ch,707.5									
	1415.00	-29.4	V	3.0	37.3	1.0	-65.7	-13.0	-52.7	
	2122.50	-22.9	V	3.0	36.6	1.0	-58.4	-13.0	-45.4	
	2830.00	-22.6	V	3.0	36.4	1.0	-58.0	-13.0	-45.0	
	1415.00	-28.1	H	3.0	37.3	1.0	-64.5	-13.0	-51.5	
	2122.50	-24.3	H	3.0	36.6	1.0	-59.9	-13.0	-46.9	
	2830.00	-23.8	H	3.0	36.4	1.0	-59.2	-13.0	-46.2	
	High Ch,711									
	1422.00	-28.7	V	3.0	37.3	1.0	-65.0	-13.0	-52.0	
	2133.00	-22.5	V	3.0	36.6	1.0	-58.0	-13.0	-45.0	
	2844.00	-22.2	V	3.0	36.4	1.0	-57.6	-13.0	-44.6	
	1422.00	-28.7	H	3.0	37.3	1.0	-65.0	-13.0	-52.0	
	2133.00	-24.3	H	3.0	36.6	1.0	-59.9	-13.0	-46.9	
	2844.00	-24.5	H	3.0	36.4	1.0	-59.9	-13.0	-46.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth

Band LTE12 10MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,704									
1408.00	-28.9	V	3.0	37.4	1.0	-65.2	-13.0	-52.2	
2112.00	-22.9	V	3.0	36.6	1.0	-58.5	-13.0	-45.5	
2816.00	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
1408.00	-28.3	H	3.0	37.4	1.0	-64.7	-13.0	-51.7	
2112.00	-24.5	H	3.0	36.6	1.0	-60.1	-13.0	-47.1	
2816.00	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
Mid Ch,707.5									
1415.00	-30.0	V	3.0	37.3	1.0	-66.3	-13.0	-53.3	
2122.50	-22.0	V	3.0	36.6	1.0	-57.6	-13.0	-44.6	
2830.00	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
1415.00	-28.6	H	3.0	37.3	1.0	-64.9	-13.0	-51.9	
2122.50	-22.0	H	3.0	36.6	1.0	-57.6	-13.0	-44.6	
2830.00	-22.7	H	3.0	36.4	1.0	-58.0	-13.0	-45.0	
High Ch,711									
1422.00	-29.6	V	3.0	37.3	1.0	-66.0	-13.0	-53.0	
2133.00	-22.6	V	3.0	36.6	1.0	-58.2	-13.0	-45.2	
2844.00	-22.4	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
1422.00	-28.2	H	3.0	37.3	1.0	-64.5	-13.0	-51.5	
2133.00	-24.5	H	3.0	36.6	1.0	-60.1	-13.0	-47.1	
2844.00	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 701.50									
LTE12	1403.00	-34.5	V	3.0	37.4	1.0	-70.8	-13.0	-57.8	
	2104.50	-27.8	V	3.0	36.6	1.0	-63.4	-13.0	-50.4	
5MHz	2806.00	-27.5	V	3.0	36.4	1.0	-62.9	-13.0	-49.9	
	1403.00	-32.6	H	3.0	37.4	1.0	-69.0	-13.0	-56.0	
16QAM	2104.50	-28.1	H	3.0	36.6	1.0	-63.6	-13.0	-50.6	
	2806.00	-28.1	H	3.0	36.4	1.0	-63.5	-13.0	-50.5	
	Mid Ch, 707.50									
	1415.00	-33.7	V	3.0	37.3	1.0	-70.1	-13.0	-57.1	
	2122.50	-27.7	V	3.0	36.6	1.0	-63.3	-13.0	-50.3	
	2830.00	-24.4	V	3.0	36.4	1.0	-59.8	-13.0	-46.8	
	1415.00	-32.8	H	3.0	37.3	1.0	-69.1	-13.0	-56.1	
	2122.50	-26.5	H	3.0	36.6	1.0	-62.1	-13.0	-49.1	
	2830.00	-26.9	H	3.0	36.4	1.0	-62.3	-13.0	-49.3	
	High Ch, 713.50									
	1427.00	-33.1	V	3.0	37.3	1.0	-69.4	-13.0	-56.4	
	2140.50	-27.2	V	3.0	36.6	1.0	-62.8	-13.0	-49.8	
	2854.00	-26.1	V	3.0	36.4	1.0	-61.4	-13.0	-48.4	
	1427.00	-31.6	H	3.0	37.3	1.0	-67.9	-13.0	-54.9	
	2140.50	-26.7	H	3.0	36.6	1.0	-62.3	-13.0	-49.3	
	2854.00	-27.6	H	3.0	36.4	1.0	-63.0	-13.0	-50.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 701.50									
LTE12	1403.00	-31.4	V	3.0	37.4	1.0	-67.7	-13.0	-54.7	
	2104.50	-25.9	V	3.0	36.6	1.0	-61.5	-13.0	-48.5	
5MHz	2806.00	-25.6	V	3.0	36.4	1.0	-61.0	-13.0	-48.0	
	1403.00	-29.0	H	3.0	37.4	1.0	-65.4	-13.0	-52.4	
QPSK	2104.50	-25.9	H	3.0	36.6	1.0	-61.4	-13.0	-48.4	
	2806.00	-25.8	H	3.0	36.4	1.0	-61.2	-13.0	-48.2	
	Mid Ch, 707.50									
	1415.00	-33.6	V	3.0	37.3	1.0	-69.9	-13.0	-56.9	
	2122.50	-27.6	V	3.0	36.6	1.0	-63.2	-13.0	-50.2	
	2830.00	-25.0	V	3.0	36.4	1.0	-60.4	-13.0	-47.4	
	1415.00	-32.6	H	3.0	37.3	1.0	-69.0	-13.0	-56.0	
	2122.50	-28.3	H	3.0	36.6	1.0	-63.9	-13.0	-50.9	
	2830.00	-27.7	H	3.0	36.4	1.0	-63.1	-13.0	-50.1	
	High Ch, 713.50									
	1427.00	-33.8	V	3.0	37.3	1.0	-70.1	-13.0	-57.1	
	2140.50	-27.4	V	3.0	36.6	1.0	-63.0	-13.0	-50.0	
	2854.00	-26.3	V	3.0	36.4	1.0	-61.7	-13.0	-48.7	
	1427.00	-31.3	H	3.0	37.3	1.0	-67.7	-13.0	-54.7	
	2140.50	-26.9	H	3.0	36.6	1.0	-62.4	-13.0	-49.4	
	2854.00	-26.3	H	3.0	36.4	1.0	-61.7	-13.0	-48.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 700.5									
LTE12	1401.00	-32.9	V	3.0	37.4	1.0	-69.2	-13.0	-56.2	
	2101.50	-27.0	V	3.0	36.6	1.0	-62.6	-13.0	-49.6	
3MHz	2802.00	-26.3	V	3.0	36.4	1.0	-61.6	-13.0	-48.6	
	1401.00	-32.8	H	3.0	37.4	1.0	-69.2	-13.0	-56.2	
16QAM	2101.50	-28.0	H	3.0	36.6	1.0	-63.6	-13.0	-50.6	
	2802.00	-27.5	H	3.0	36.4	1.0	-62.9	-13.0	-49.9	
	Mid Ch, 707.50									
	1415.00	-30.3	V	3.0	37.3	1.0	-66.6	-13.0	-53.6	
	2122.00	-24.4	V	3.0	36.6	1.0	-60.0	-13.0	-47.0	
	2830.00	-23.2	V	3.0	36.4	1.0	-58.6	-13.0	-45.6	
	1415.00	-30.3	H	3.0	37.3	1.0	-66.6	-13.0	-53.6	
	2122.00	-24.9	H	3.0	36.6	1.0	-60.5	-13.0	-47.5	
	2830.00	-24.5	H	3.0	36.4	1.0	-59.9	-13.0	-46.9	
	High Ch, 714.5									
	1429.00	-29.1	V	3.0	37.3	1.0	-65.4	-13.0	-52.4	
	2143.50	-23.7	V	3.0	36.6	1.0	-59.2	-13.0	-46.2	
	2858.00	-23.9	V	3.0	36.4	1.0	-59.3	-13.0	-46.3	
	1429.00	-29.4	H	3.0	37.3	1.0	-65.7	-13.0	-52.7	
	2143.50	-24.8	H	3.0	36.6	1.0	-60.4	-13.0	-47.4	
	2858.00	-26.0	H	3.0	36.4	1.0	-61.4	-13.0	-48.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT , AC Adapter /HS
Location: Chamber F
Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 700.5									
LTE12	1401.00	-32.8	V	3.0	37.4	1.0	-69.2	-13.0	-56.2	
	2101.50	-26.7	V	3.0	36.6	1.0	-62.3	-13.0	-49.3	
3MHz	2802.00	-27.0	V	3.0	36.4	1.0	-62.4	-13.0	-49.4	
	1401.00	-32.3	H	3.0	37.4	1.0	-68.6	-13.0	-55.6	
QPSK	2101.50	-26.9	H	3.0	36.6	1.0	-62.5	-13.0	-49.5	
	2802.00	-26.8	H	3.0	36.4	1.0	-62.2	-13.0	-49.2	
	Mid Ch, 707.50									
	1415.00	-29.8	V	3.0	37.3	1.0	-66.1	-13.0	-53.1	
	2122.00	-24.1	V	3.0	36.6	1.0	-59.7	-13.0	-46.7	
	2830.00	-24.0	V	3.0	36.4	1.0	-59.3	-13.0	-46.3	
	1415.00	-29.9	H	3.0	37.3	1.0	-66.3	-13.0	-53.3	
	2122.00	-24.6	H	3.0	36.6	1.0	-60.2	-13.0	-47.2	
	2830.00	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
	High Ch, 714.5									
	1429.00	-32.8	V	3.0	37.3	1.0	-69.1	-13.0	-56.1	
	2143.50	-26.5	V	3.0	36.6	1.0	-62.0	-13.0	-49.0	
	2858.00	-25.2	V	3.0	36.4	1.0	-60.6	-13.0	-47.6	
	1429.00	-30.0	H	3.0	37.3	1.0	-66.3	-13.0	-53.3	
	2143.50	-26.5	H	3.0	36.6	1.0	-62.1	-13.0	-49.1	
	2858.00	-25.6	H	3.0	36.4	1.0	-61.0	-13.0	-48.0	

UL Verification Services, Inc. Chamber F
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 04/27/15
Test Engineer: D. Mun
Configuration: EUT w/ AC Adapter + HS
Location: Chamber F
Mode: LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 699.7									
LTE12	1399.40	-28.8	V	3.0	37.4	1.0	-65.1	-13.0	-52.1	
	2099.10	-23.5	V	3.0	36.6	1.0	-59.1	-13.0	-46.1	
1.4MHz	2798.80	-25.8	V	3.0	36.4	1.0	-61.2	-13.0	-48.2	
	1399.40	-26.8	H	3.0	37.4	1.0	-63.1	-13.0	-50.1	
16QAM	2099.10	-25.5	H	3.0	36.6	1.0	-61.0	-13.0	-48.0	
	2798.80	-26.6	H	3.0	36.4	1.0	-62.0	-13.0	-49.0	
	Mid Ch, 707.50									
	1415.00	-30.0	V	3.0	37.3	1.0	-66.4	-13.0	-53.4	
	2122.00	-26.4	V	3.0	36.6	1.0	-62.0	-13.0	-49.0	
	2830.00	-25.8	V	3.0	36.4	1.0	-61.2	-13.0	-48.2	
	1415.00	-30.0	H	3.0	37.3	1.0	-66.4	-13.0	-53.4	
	2122.00	-26.4	H	3.0	36.6	1.0	-62.0	-13.0	-49.0	
	2830.00	-26.0	H	3.0	36.4	1.0	-61.3	-13.0	-48.3	
	High Ch, 715.3									
	1430.60	-29.5	V	3.0	37.3	1.0	-65.9	-13.0	-52.9	
	2145.90	-23.9	V	3.0	36.6	1.0	-59.4	-13.0	-46.4	
	2861.20	-25.5	V	3.0	36.4	1.0	-60.9	-13.0	-47.9	
	1430.60	-29.6	H	3.0	37.3	1.0	-65.9	-13.0	-52.9	
	2145.90	-25.9	H	3.0	36.6	1.0	-61.5	-13.0	-48.5	
	2861.20	-27.2	H	3.0	36.4	1.0	-62.6	-13.0	-49.6	

UL Verification Services, Inc. Chamber F
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 04/27/15
Test Engineer: D. Mun
Configuration: EUT w/ AC Adapter + HS
Location: Chamber F
Mode: LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 699.7									
LTE12	1399.40	-27.0	V	3.0	37.4	1.0	-63.4	-13.0	-50.4	
	2099.10	-24.1	V	3.0	36.6	1.0	-59.7	-13.0	-46.7	
1.4MHz	2798.80	-26.1	V	3.0	36.4	1.0	-61.5	-13.0	-48.5	
	1399.40	-26.0	H	3.0	37.4	1.0	-62.4	-13.0	-49.4	
QPSK	2099.10	-25.4	H	3.0	36.6	1.0	-61.0	-13.0	-48.0	
	2798.80	-27.9	H	3.0	36.4	1.0	-63.3	-13.0	-50.3	
	Mid Ch, 707.50									
	1415.00	-29.7	V	3.0	37.3	1.0	-66.0	-13.0	-53.0	
	2122.00	-27.3	V	3.0	36.6	1.0	-62.8	-13.0	-49.8	
	2830.00	-26.2	V	3.0	36.4	1.0	-61.6	-13.0	-48.6	
	1415.00	-29.3	H	3.0	37.3	1.0	-65.6	-13.0	-52.6	
	2122.00	-27.6	H	3.0	36.6	1.0	-63.2	-13.0	-50.2	
	2830.00	-27.0	H	3.0	36.4	1.0	-62.4	-13.0	-49.4	
	High Ch, 715.3									
	1430.60	-28.7	V	3.0	37.3	1.0	-65.0	-13.0	-52.0	
	2145.90	-22.1	V	3.0	36.6	1.0	-57.6	-13.0	-44.6	
	2861.20	-24.0	V	3.0	36.4	1.0	-59.4	-13.0	-46.4	
	1430.60	-28.4	H	3.0	37.3	1.0	-64.7	-13.0	-51.7	
	2145.90	-24.7	H	3.0	36.6	1.0	-60.2	-13.0	-47.2	
	2861.20	-25.7	H	3.0	36.4	1.0	-61.1	-13.0	-48.1	

LTE Band 25

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	15I20514
Date:	4/23/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT, Ac Charger, Headset
Location:	Chamber C
Mode:	LTE_16QAM Band 25 Harmonics, 20MHz Bandwidth

Band

LTE25

20MHz

16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5580.00	-15.3	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7440.00	-11.1	V	3.0	35.7	1.0	-45.8	-13.0	-32.8	
3720.00	-21.1	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
5580.00	-11.7	H	3.0	35.5	1.0	-46.2	-13.0	-33.2	
7440.00	-11.7	H	3.0	35.7	1.0	-46.4	-13.0	-33.4	
Mid Ch, 1882.5									
3765.00	-19.6	V	3.0	35.8	1.0	-54.4	-13.0	-41.4	
5647.50	-16.7	V	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7530.00	-10.9	V	3.0	35.7	1.0	-45.7	-13.0	-32.7	
3765.00	-20.6	H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5647.50	-16.9	H	3.0	35.5	1.0	-51.4	-13.0	-38.4	
7530.00	-9.9	H	3.0	35.7	1.0	-44.7	-13.0	-31.7	
High Ch, 1905									
3810.00	-18.8	V	3.0	35.8	1.0	-53.6	-13.0	-40.6	
5715.00	-15.5	V	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7620.00	-11.9	V	3.0	35.8	1.0	-46.7	-13.0	-33.7	
3810.00	-20.4	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5715.00	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7620.00	-12.6	H	3.0	35.8	1.0	-47.4	-13.0	-34.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 20MHz Bandwidth

Band
LTE25
20MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-20.3	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5580.00	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7440.00	-10.8	V	3.0	35.7	1.0	-45.5	-13.0	-32.5	
3720.00	-21.3	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5580.00	-12.9	H	3.0	35.5	1.0	-47.4	-13.0	-34.4	
7440.00	-11.5	H	3.0	35.7	1.0	-46.3	-13.0	-33.3	
Mid Ch, 1882.5									
3765.00	-18.0	V	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5647.50	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7530.00	-11.3	V	3.0	35.7	1.0	-46.0	-13.0	-33.0	
3765.00	-18.7	H	3.0	35.8	1.0	-53.5	-13.0	-40.5	
5647.50	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7530.00	-10.4	H	3.0	35.7	1.0	-45.2	-13.0	-32.2	
High Ch, 1905									
3810.00	-19.7	V	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5715.00	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7620.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
3810.00	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5715.00	-15.3	H	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7620.00	-12.2	H	3.0	35.8	1.0	-47.0	-13.0	-34.0	

Band

LTE25

15MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 25 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5572.50	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7430.00	-13.5	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
3715.00	-21.6	H	3.0	35.8	1.0	-56.4	-13.0	-43.4	
5572.50	-15.5	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7430.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1882.5									
3815.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5722.50	-14.2	V	3.0	35.5	1.0	-48.7	-13.0	-35.7	
7630.00	-13.5	V	3.0	35.7	1.0	-48.2	-13.0	-35.2	
3815.00	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5722.50	-16.5	H	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7630.00	-10.1	H	3.0	35.7	1.0	-44.8	-13.0	-31.8	
High Ch, 1907.5									
3815.00	-21.1	V	3.0	35.8	1.0	-55.8	-13.0	-42.8	
5722.50	-12.6	V	3.0	35.5	1.0	-47.1	-13.0	-34.1	
7630.00	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
3815.00	-21.4	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5722.50	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7630.00	-13.0	H	3.0	35.8	1.0	-47.7	-13.0	-34.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 15MHz Bandwidth

Band
LTE25
15MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-20.8	V	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5572.50	-16.3	V	3.0	35.5	1.0	-50.8	-13.0	-37.8	
7430.00	-13.0	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
3715.00	-21.3	H	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5572.50	-13.8	H	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7430.00	-12.4	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1882.5									
3765.00	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5647.50	-15.8	V	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7530.00	-12.4	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
3765.00	-20.5	H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5647.50	-16.1	H	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7530.00	-11.0	H	3.0	35.7	1.0	-45.7	-13.0	-32.7	
High Ch, 1907.5									
3815.00	-19.7	V	3.0	35.8	1.0	-54.4	-13.0	-41.4	
5722.50	-12.5	V	3.0	35.5	1.0	-47.0	-13.0	-34.0	
7630.00	-12.0	V	3.0	35.8	1.0	-46.7	-13.0	-33.7	
3815.00	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5722.50	-14.0	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7630.00	-12.6	H	3.0	35.8	1.0	-47.3	-13.0	-34.3	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 25 Harmonics, 10MHz Bandwidth

Band
LTE25
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-21.4	V	3.0	35.9	1.0	-56.2	-13.0	-43.2	
5565.00	-14.4	V	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7420.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
3710.00	-20.1	H	3.0	35.9	1.0	-55.0	-13.0	-42.0	
5565.00	-14.0	H	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7420.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1882.5									
3765.00	-21.4	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5647.50	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7530.00	-10.9	V	3.0	35.7	1.0	-45.7	-13.0	-32.7	
3765.00	-21.2	H	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5647.50	-16.5	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7530.00	-13.2	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
High Ch, 1910									
3820.00	-20.8	V	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5730.00	-15.7	V	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7640.00	-10.6	V	3.0	35.8	1.0	-45.4	-13.0	-32.4	
3820.00	-20.8	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5730.00	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7640.00	-12.2	H	3.0	35.8	1.0	-46.9	-13.0	-33.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 10MHz Bandwidth

Band
LTE25
10MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-21.1	V	3.0	35.9	1.0	-56.0	-13.0	-43.0	
5565.00	-14.3	V	3.0	35.5	1.0	-48.8	-13.0	-35.8	
7420.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3710.00	-19.5	H	3.0	35.9	1.0	-54.3	-13.0	-41.3	
5565.00	-12.7	H	3.0	35.5	1.0	-47.2	-13.0	-34.2	
7420.00	-12.3	H	3.0	35.7	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1882.5									
3765.00	-21.3	V	3.0	35.8	1.0	-56.2	-13.0	-43.2	
5647.50	-17.0	V	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7530.00	-10.6	V	3.0	35.7	1.0	-45.3	-13.0	-32.3	
3765.00	-20.4	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5647.50	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7530.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
High Ch, 1910									
3820.00	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5730.00	-16.4	V	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7640.00	-11.3	V	3.0	35.8	1.0	-46.1	-13.0	-33.1	
3820.00	-21.0	H	3.0	35.8	1.0	-55.8	-13.0	-42.8	
5730.00	-15.7	H	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7640.00	-12.8	H	3.0	35.8	1.0	-47.6	-13.0	-34.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 25 Harmonics, 5MHz Bandwidth

Band
LTE25
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-21.1	V	3.0	35.9	1.0	-55.9	-13.0	-42.9	
5557.50	-16.9	V	3.0	35.5	1.0	-51.4	-13.0	-38.4	
7410.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3705.00	-18.4	H	3.0	35.9	1.0	-53.2	-13.0	-40.2	
5557.50	-15.6	H	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7410.00	-13.2	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
Mid Ch, 1882.5									
3765.00	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
5647.50	-17.2	V	3.0	35.5	1.0	-51.7	-13.0	-38.7	
7530.00	-11.5	V	3.0	35.7	1.0	-46.3	-13.0	-33.3	
3765.00	-21.7	H	3.0	35.8	1.0	-56.5	-13.0	-43.5	
5647.50	-17.0	H	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7530.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
High Ch, 1912.5									
3825.00	-18.3	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5737.50	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7650.00	-10.1	V	3.0	35.8	1.0	-44.9	-13.0	-31.9	
3825.00	-21.2	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5737.50	-14.4	H	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7650.00	-13.0	H	3.0	35.8	1.0	-47.7	-13.0	-34.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 5MHz Bandwidth

Band
LTE25
5MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-20.7	V	3.0	35.9	1.0	-55.5	-13.0	-42.5	
5557.50	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7410.00	-13.9	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
3705.00	-18.5	H	3.0	35.9	1.0	-53.3	-13.0	-40.3	
5557.50	-14.6	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7410.00	-12.6	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
Mid Ch, 1882.5									
3765.00	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5647.50	-16.8	V	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7530.00	-12.5	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
3765.00	-20.6	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5647.50	-17.1	H	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7530.00	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
High Ch, 1912.5									
3825.00	-18.6	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
5737.50	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7650.00	-14.8	V	3.0	35.8	1.0	-49.6	-13.0	-36.6	
3825.00	-20.3	H	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5737.50	-14.7	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7650.00	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	

Band

LTE25

3MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_16QAM Band 25 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-19.7	V	3.0	35.9	1.0	-54.5	-13.0	-41.5	
5554.50	-15.9	V	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7406.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3703.00	-14.9	H	3.0	35.9	1.0	-49.7	-13.0	-36.7	
5554.50	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
7406.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
Mid Ch, 1882.5									
3765.00	-20.7	V	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5647.50	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7530.00	-13.5	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3765.00	-21.7	H	3.0	35.8	1.0	-56.6	-13.0	-43.6	
5647.50	-17.1	H	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7530.00	-12.7	H	3.0	35.7	1.0	-47.5	-13.0	-34.5	
High Ch, 1913.5									
3827.00	-19.7	V	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5740.50	-16.4	V	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7654.00	-11.4	V	3.0	35.8	1.0	-46.2	-13.0	-33.2	
3827.00	-20.3	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5740.50	-16.1	H	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7654.00	-11.6	H	3.0	35.8	1.0	-46.4	-13.0	-33.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 3MHz Bandwidth

Band
LTE25
3MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-18.8	V	3.0	35.9	1.0	-53.7	-13.0	-40.7	
5554.50	-16.4	V	3.0	35.5	1.0	-50.8	-13.0	-37.8	
7406.00	-12.8	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
3703.00	-16.1	H	3.0	35.9	1.0	-50.9	-13.0	-37.9	
5554.50	-17.0	H	3.0	35.5	1.0	-51.5	-13.0	-38.5	
7406.00	-13.4	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1882.5									
3765.00	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5647.50	-17.2	V	3.0	35.5	1.0	-51.7	-13.0	-38.7	
7530.00	-13.1	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
3765.00	-21.1	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5647.50	-16.7	H	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7530.00	-12.5	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	
High Ch, 1913.5									
3827.00	-18.3	V	3.0	35.8	1.0	-53.1	-13.0	-40.1	
5740.50	-15.0	V	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7654.00	-11.3	V	3.0	35.8	1.0	-46.0	-13.0	-33.0	
3827.00	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5740.50	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7654.00	-12.8	H	3.0	35.8	1.0	-47.5	-13.0	-34.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company:	LG
Project #:	15I20514
Date:	4/23/2015
Test Engineer:	Angel Escamilla
Configuration:	X-pos EUT, Ac Charger, Headset
Location:	Chamber C
Mode:	LTE_16QAM Band 25 Harmonics, 1.4MHz Bandwidth

Band

LTE25

1.4MHz

16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-21.1	V	3.0	35.9	1.0	-55.9	-13.0	-42.9	
5552.10	-15.4	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7402.80	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3701.40	-17.9	H	3.0	35.9	1.0	-52.8	-13.0	-39.8	
5552.10	-14.5	H	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7402.80	-11.2	H	3.0	35.7	1.0	-45.9	-13.0	-32.9	
Mid Ch, 1882.5									
3765.00	-21.5	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
5647.50	-16.1	V	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7530.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
3765.00	-21.5	H	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5647.50	-13.8	H	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7530.00	-10.6	H	3.0	35.7	1.0	-45.4	-13.0	-32.4	
High Ch, 1914.3									
3828.60	-16.6	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
5742.90	-12.2	V	3.0	35.5	1.0	-46.7	-13.0	-33.7	
7657.20	-12.0	V	3.0	35.8	1.0	-46.8	-13.0	-33.8	
3828.60	-20.2	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5742.90	-16.4	H	3.0	35.5	1.0	-50.9	-13.0	-37.9	
7657.20	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	

Band

LTE25

1.4MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/23/2015
Test Engineer: Angel Escamilla
Configuration: X-pos EUT, Ac Charger, Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-20.8	V	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5552.10	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7402.80	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
3701.40	-17.4	H	3.0	35.9	1.0	-52.2	-13.0	-39.2	
5552.10	-15.1	H	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7402.80	-11.0	H	3.0	35.7	1.0	-45.7	-13.0	-32.7	
Mid Ch, 1882.5									
3765.00	-19.8	V	3.0	35.8	1.0	-54.6	-13.0	-41.6	
5647.50	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7530.00	-14.3	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3765.00	-19.9	H	3.0	35.8	1.0	-54.7	-13.0	-41.7	
5647.50	-13.3	H	3.0	35.5	1.0	-47.8	-13.0	-34.8	
7530.00	-12.1	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	
High Ch, 1914.3									
3828.60	-16.2	V	3.0	35.8	1.0	-50.9	-13.0	-37.9	
5742.90	-12.5	V	3.0	35.5	1.0	-47.0	-13.0	-34.0	
7657.20	-12.6	V	3.0	35.8	1.0	-47.3	-13.0	-34.3	
3828.60	-19.9	H	3.0	35.8	1.0	-54.6	-13.0	-41.6	
5742.90	-16.8	H	3.0	35.5	1.0	-51.3	-13.0	-38.3	
7657.20	-12.3	H	3.0	35.8	1.0	-47.1	-13.0	-34.1	

LTE Band 26

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 26 Harmonics, 15MHz Bandwidth

Band

LTE26

15MHz

16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 831.5									
1643.00	-27.6	V	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2464.50	-24.0	V	3.0	36.4	1.0	-59.4	-13.0	-46.4	
3286.00	111.3	V	3.0	36.2	1.0	76.2	-13.0	89.2	
1643.00	-29.1	H	3.0	37.0	1.0	-65.2	-13.0	-52.2	
2464.50	-24.8	H	3.0	36.4	1.0	-60.2	-13.0	-47.2	
3286.00	-24.4	H	3.0	36.2	1.0	-59.6	-13.0	-46.6	
Mid Ch, 836.5									
1663.00	-28.4	V	3.0	37.0	1.0	-64.4	-13.0	-51.4	
2494.50	-21.9	V	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3326.00	-22.8	V	3.0	36.1	1.0	-58.0	-13.0	-45.0	
1663.00	-29.0	H	3.0	37.0	1.0	-65.0	-13.0	-52.0	
2494.50	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3326.00	-22.9	H	3.0	36.1	1.0	-58.0	-13.0	-45.0	
High Ch, 841.5									
1683.00	-27.6	V	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2524.50	-22.4	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3366.00	-22.3	V	3.0	36.1	1.0	-57.4	-13.0	-44.4	
1683.00	-27.8	H	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2524.50	-25.7	H	3.0	36.4	1.0	-61.1	-13.0	-48.1	
3366.00	-24.0	H	3.0	36.1	1.0	-59.1	-13.0	-46.1	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 26 Harmonics, 15MHz Bandwidth

Band: LTE26 15MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 831.5									
1643.00	-28.8	V	3.0	37.0	1.0	-64.8	-13.0	-51.8	
2464.50	-22.2	V	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3286.00	-23.1	V	3.0	36.2	1.0	-58.3	-13.0	-45.3	
1643.00	-28.3	H	3.0	37.0	1.0	-64.4	-13.0	-51.4	
2464.50	-24.8	H	3.0	36.4	1.0	-60.2	-13.0	-47.2	
3286.00	-23.3	H	3.0	36.2	1.0	-58.4	-13.0	-45.4	
Mid Ch, 836.5									
1663.00	-28.2	V	3.0	37.0	1.0	-64.2	-13.0	-51.2	
2494.50	-22.0	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3326.00	-22.5	V	3.0	36.1	1.0	-57.7	-13.0	-44.7	
1663.00	-28.8	H	3.0	37.0	1.0	-64.8	-13.0	-51.8	
2494.50	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
3326.00	-23.2	H	3.0	36.1	1.0	-58.4	-13.0	-45.4	
High Ch, 841.5									
1683.00	-28.4	V	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2524.50	-22.1	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3366.00	-23.8	V	3.0	36.1	1.0	-58.9	-13.0	-45.9	
1683.00	-28.9	H	3.0	37.0	1.0	-64.9	-13.0	-51.9	
2524.50	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
3366.00	-23.3	H	3.0	36.1	1.0	-58.4	-13.0	-45.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 26 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 819									
LTE26	1638.00	-28.7	V	3.0	37.0	1.0	-64.7	-13.0	-51.7	
	2457.00	-22.8	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
10MHz	3276.00	-23.0	V	3.0	36.2	1.0	-58.2	-13.0	-45.2	
	1638.00	-28.4	H	3.0	37.0	1.0	-64.5	-13.0	-51.5	
	2457.00	-25.5	H	3.0	36.4	1.0	-60.9	-13.0	-47.9	
16QAM	3276.00	-23.0	H	3.0	36.2	1.0	-58.1	-13.0	-45.1	
	Mid Ch, 831.5									
	1663.00	-28.1	V	3.0	37.0	1.0	-64.1	-13.0	-51.1	
	2494.50	-21.6	V	3.0	36.4	1.0	-57.1	-13.0	-44.1	
	3326.00	-22.2	V	3.0	36.1	1.0	-57.3	-13.0	-44.3	
	1663.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
	2494.50	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
	3326.00	-22.8	H	3.0	36.1	1.0	-58.0	-13.0	-45.0	
	High Ch, 844									
	1688.00	-28.3	V	3.0	37.0	1.0	-64.2	-13.0	-51.2	
	2532.00	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
	3376.00	-22.8	V	3.0	36.1	1.0	-57.9	-13.0	-44.9	
	1688.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
	2532.00	-23.9	H	3.0	36.4	1.0	-59.3	-13.0	-46.3	
	3376.00	-23.2	H	3.0	36.1	1.0	-58.3	-13.0	-45.3	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 26 Harmonics, 10MHz Bandwidth

Band LTE26 10MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 819									
1638.00	-27.9	V	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2457.00	-24.2	V	3.0	36.4	1.0	-59.6	-13.0	-46.6	
3276.00	-22.9	V	3.0	36.2	1.0	-58.1	-13.0	-45.1	
1638.00	-28.5	H	3.0	37.0	1.0	-64.6	-13.0	-51.6	
2457.00	-24.7	H	3.0	36.4	1.0	-60.1	-13.0	-47.1	
3276.00	-23.0	H	3.0	36.2	1.0	-58.2	-13.0	-45.2	
Mid Ch, 831.5									
1663.00	-28.7	V	3.0	37.0	1.0	-64.7	-13.0	-51.7	
2494.50	-22.6	V	3.0	36.4	1.0	-58.0	-13.0	-45.0	
3326.00	-22.8	V	3.0	36.1	1.0	-57.9	-13.0	-44.9	
1663.00	-28.1	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2494.50	-22.4	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3326.00	-22.9	H	3.0	36.1	1.0	-58.1	-13.0	-45.1	
High Ch, 844									
1688.00	-28.5	V	3.0	37.0	1.0	-64.5	-13.0	-51.5	
2532.00	-23.3	V	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3376.00	-22.2	V	3.0	36.1	1.0	-57.2	-13.0	-44.2	
1688.00	-27.7	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2532.00	-23.6	H	3.0	36.4	1.0	-59.0	-13.0	-46.0	
3376.00	-22.5	H	3.0	36.1	1.0	-57.5	-13.0	-44.5	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 26 Harmonics, 5MHz Bandwidth

Band LTE26 5MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 816.5									
1633.00	-27.4	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2449.50	-22.1	V	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3266.00	-21.8	V	3.0	36.2	1.0	-57.0	-13.0	-44.0	
1633.00	-27.1	H	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2449.50	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3266.00	-21.6	H	3.0	36.2	1.0	-56.8	-13.0	-43.8	
Mid Ch, 831.5									
1663.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2494.50	-20.5	V	3.0	36.4	1.0	-55.9	-13.0	-42.9	
3326.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1663.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2494.50	-22.3	H	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3326.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 846.5									
1693.00	-26.4	V	3.0	37.0	1.0	-62.3	-13.0	-49.3	
2539.50	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
3386.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
1693.00	-26.9	H	3.0	37.0	1.0	-62.9	-13.0	-49.9	
2539.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3386.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 26 Harmonics, 5MHz Bandwidth

Band LTE26 5MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 816.5									
1633.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2449.50	-21.3	V	3.0	36.4	1.0	-56.8	-13.0	-43.8	
3266.00	-22.4	V	3.0	36.2	1.0	-57.5	-13.0	-44.5	
1633.00	-27.2	H	3.0	37.0	1.0	-63.3	-13.0	-50.3	
2449.50	-23.0	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
3266.00	-22.0	H	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 831.5									
1663.00	-27.1	V	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2494.50	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3326.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1663.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2494.50	-22.7	H	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3326.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 846.5									
1693.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2539.50	-21.1	V	3.0	36.4	1.0	-56.5	-13.0	-43.5	
3386.00	-21.1	V	3.0	36.1	1.0	-56.2	-13.0	-43.2	
1693.00	-26.9	H	3.0	37.0	1.0	-62.9	-13.0	-49.9	
2539.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3386.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 26 Harmonics, 3MHz Bandwidth

Band LTE26 3MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 815.5									
1631.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2446.50	-22.9	V	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3262.00	-22.1	V	3.0	36.2	1.0	-57.2	-13.0	-44.2	
1631.00	-27.2	H	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2446.50	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3262.00	-21.0	H	3.0	36.2	1.0	-56.2	-13.0	-43.2	
Mid Ch, 831.5									
1663.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2494.50	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
3326.00	-22.0	V	3.0	36.1	1.0	-57.1	-13.0	-44.1	
1663.00	-27.5	H	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2494.50	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3326.00	-22.4	H	3.0	36.1	1.0	-57.5	-13.0	-44.5	
High Ch, 847.5									
1695.00	-26.3	V	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2542.50	-21.1	V	3.0	36.4	1.0	-56.5	-13.0	-43.5	
3390.00	-21.4	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
1695.00	-27.1	H	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2542.50	-22.4	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3390.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 26 Harmonics, 3MHz Bandwidth

Band LTE26 3MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 815.5									
1631.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2446.50	-21.5	V	3.0	36.4	1.0	-56.9	-13.0	-43.9	
3262.00	-21.7	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1631.00	-27.8	H	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2446.50	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
3262.00	-22.0	H	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 831.5									
1663.00	-26.4	V	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2494.50	-20.7	V	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3326.00	-20.6	V	3.0	36.1	1.0	-55.7	-13.0	-42.7	
1663.00	-27.0	H	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2494.50	-22.2	H	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3326.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 847.5									
1695.00	-26.7	V	3.0	37.0	1.0	-62.6	-13.0	-49.6	
2542.50	-20.8	V	3.0	36.4	1.0	-56.2	-13.0	-43.2	
3390.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
1695.00	-26.4	H	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2542.50	-22.0	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3390.00	-20.5	H	3.0	36.1	1.0	-55.6	-13.0	-42.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_16QAM Band 26 Harmonics, 1.4MHz Bandwidth

Band
LTE26
1.4MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 814.7									
1629.40	-27.1	V	3.0	37.1	1.0	-63.2	-13.0	-50.2	
2444.10	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3258.80	-21.2	V	3.0	36.2	1.0	-56.4	-13.0	-43.4	
1629.40	-27.6	H	3.0	37.1	1.0	-63.7	-13.0	-50.7	
2444.10	-22.1	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3258.80	-22.5	H	3.0	36.2	1.0	-57.7	-13.0	-44.7	
Mid Ch, 831.5									
1663.00	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2494.50	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
3326.00	-22.3	V	3.0	36.1	1.0	-57.4	-13.0	-44.4	
1663.00	-27.4	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2494.50	-23.8	H	3.0	36.4	1.0	-59.2	-13.0	-46.2	
3326.00	-23.4	H	3.0	36.1	1.0	-58.5	-13.0	-45.5	
High Ch, 848.3									
1696.60	-26.5	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2544.90	-22.4	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3393.20	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1696.60	-27.3	H	3.0	37.0	1.0	-63.3	-13.0	-50.3	
2544.90	-22.6	H	3.0	36.4	1.0	-58.0	-13.0	-45.0	
3393.20	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20514
Date: 4/27/2015
Test Engineer: D. Mun
Configuration: EUT/ AC Charger/ Headset
Location: Chamber F
Mode: LTE_QPSK Band 26 Harmonics, 1.4MHz Bandwidth

Band: LTE26 1.4MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 814.7									
1629.40	-27.0	V	3.0	37.1	1.0	-63.1	-13.0	-50.1	
2444.10	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3258.80	-21.1	V	3.0	36.2	1.0	-56.3	-13.0	-43.3	
1629.40	-26.7	H	3.0	37.1	1.0	-62.7	-13.0	-49.7	
2444.10	-23.5	H	3.0	36.4	1.0	-59.0	-13.0	-46.0	
3258.80	-21.9	H	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 831.5									
1663.00	-27.4	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2494.50	-25.1	V	3.0	36.4	1.0	-60.6	-13.0	-47.6	
3326.00	-21.3	V	3.0	36.1	1.0	-56.4	-13.0	-43.4	
1663.00	-26.1	H	3.0	37.0	1.0	-62.1	-13.0	-49.1	
2494.50	-23.0	H	3.0	36.4	1.0	-58.4	-13.0	-45.4	
3326.00	-20.9	H	3.0	36.1	1.0	-56.0	-13.0	-43.0	
High Ch, 848.3									
1696.60	-25.4	V	3.0	37.0	1.0	-61.4	-13.0	-48.4	
2544.90	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3393.20	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
1696.60	-26.7	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-21.8	H	3.0	36.4	1.0	-57.2	-13.0	-44.2	
3393.20	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

LTE Band 41

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth

Band
LTE41
20MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-18.3	V	3.0	35.5	1.0	-52.8	-25.0	-27.8	
7518.00	-14.3	V	3.0	35.7	1.0	-49.0	-25.0	-24.0	
10024.00	-11.7	V	3.0	36.0	1.0	-46.7	-25.0	-21.7	
5012.00	-17.7	H	3.0	35.5	1.0	-52.2	-25.0	-27.2	
7518.00	-13.8	H	3.0	35.7	1.0	-48.6	-25.0	-23.6	
10024.00	-11.0	H	3.0	36.0	1.0	-46.0	-25.0	-21.0	
Mid Ch, 2593									
5186.00	-17.5	V	3.0	35.4	1.0	-51.9	-25.0	-26.9	
7779.00	-12.4	V	3.0	35.8	1.0	-47.2	-25.0	-22.2	
10372.00	-13.6	V	3.0	35.8	1.0	-48.4	-25.0	-23.4	
5186.00	-16.3	H	3.0	35.4	1.0	-50.7	-25.0	-25.7	
7779.00	-11.4	H	3.0	35.8	1.0	-46.2	-25.0	-21.2	
10372.00	-13.2	H	3.0	35.8	1.0	-48.0	-25.0	-23.0	
High Ch, 2680									
5360.00	-14.2	V	3.0	35.4	1.0	-48.7	-25.0	-23.7	
8040.00	-14.2	V	3.0	35.8	1.0	-49.0	-25.0	-24.0	
10720.00	-12.3	V	3.0	35.7	1.0	-47.0	-25.0	-22.0	
5360.00	-13.8	H	3.0	35.4	1.0	-48.3	-25.0	-23.3	
8040.00	-13.4	H	3.0	35.8	1.0	-48.2	-25.0	-23.2	
10720.00	-12.2	H	3.0	35.7	1.0	-46.9	-25.0	-21.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth

Band: LTE41 20MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-17.0	V	3.0	35.5	1.0	-51.5	-25.0	-26.5	
7518.00	-14.6	V	3.0	35.7	1.0	-49.3	-25.0	-24.3	
10024.00	-11.7	V	3.0	36.0	1.0	-46.7	-25.0	-21.7	
5012.00	-18.0	H	3.0	35.5	1.0	-52.5	-25.0	-27.5	
7518.00	-14.2	H	3.0	35.7	1.0	-48.9	-25.0	-23.9	
10024.00	-10.9	H	3.0	36.0	1.0	-45.9	-25.0	-20.9	
Mid Ch, 2593									
5186.00	-17.6	V	3.0	35.4	1.0	-52.1	-25.0	-27.1	
7779.00	-12.0	V	3.0	35.8	1.0	-46.7	-25.0	-21.7	
10372.00	-13.4	V	3.0	35.8	1.0	-48.2	-25.0	-23.2	
5186.00	-16.6	H	3.0	35.4	1.0	-51.0	-25.0	-26.0	
7779.00	-11.5	H	3.0	35.8	1.0	-46.2	-25.0	-21.2	
10372.00	-13.0	H	3.0	35.8	1.0	-47.9	-25.0	-22.9	
High Ch, 2680									
5360.00	-13.3	V	3.0	35.4	1.0	-47.8	-25.0	-22.8	
8040.00	-14.3	V	3.0	35.8	1.0	-49.1	-25.0	-24.1	
10720.00	-12.2	V	3.0	35.7	1.0	-46.9	-25.0	-21.9	
5360.00	-13.9	H	3.0	35.4	1.0	-48.3	-25.0	-23.3	
8040.00	-13.6	H	3.0	35.8	1.0	-48.4	-25.0	-23.4	
10720.00	-12.2	H	3.0	35.7	1.0	-46.9	-25.0	-21.9	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE41	Low Ch, 2503.5									
15MHz	5007.00	-18.4	V	3.0	35.5	1.0	-52.8	-25.0	-27.8	
	7510.50	-15.1	V	3.0	35.7	1.0	-49.8	-25.0	-24.8	
	10014.00	-11.0	V	3.0	36.0	1.0	-46.0	-25.0	-21.0	
16QAM	5007.00	-16.9	H	3.0	35.5	1.0	-51.4	-25.0	-26.4	
	7510.50	-14.0	H	3.0	35.7	1.0	-48.7	-25.0	-23.7	
	10014.00	-10.7	H	3.0	36.0	1.0	-45.8	-25.0	-20.8	
	Mid Ch, 2593									
	5186.00	-17.2	V	3.0	35.4	1.0	-51.6	-25.0	-26.6	
	7779.00	-11.6	V	3.0	35.8	1.0	-46.4	-25.0	-21.4	
	10372.00	-13.4	V	3.0	35.8	1.0	-48.2	-25.0	-23.2	
	5186.00	-17.1	H	3.0	35.4	1.0	-51.5	-25.0	-26.5	
	7779.00	-11.0	H	3.0	35.8	1.0	-45.8	-25.0	-20.8	
	10372.00	-13.2	H	3.0	35.8	1.0	-48.1	-25.0	-23.1	
	High Ch, 2682.5									
	5365.00	-13.7	V	3.0	35.4	1.0	-48.2	-25.0	-23.2	
	8047.50	-14.6	V	3.0	35.8	1.0	-49.4	-25.0	-24.4	
	10730.00	-12.2	V	3.0	35.7	1.0	-46.9	-25.0	-21.9	
	5365.00	-13.0	H	3.0	35.4	1.0	-47.5	-25.0	-22.5	
	8047.50	-13.6	H	3.0	35.8	1.0	-48.4	-25.0	-23.4	
	10730.00	-12.1	H	3.0	35.7	1.0	-46.8	-25.0	-21.8	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth

Band: LTE41 15MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.5									
5007.00	-18.3	V	3.0	35.5	1.0	-52.7	-25.0	-27.7	
7510.50	-15.8	V	3.0	35.7	1.0	-50.5	-25.0	-25.5	
10014.00	-11.6	V	3.0	36.0	1.0	-46.6	-25.0	-21.6	
5007.00	-18.5	H	3.0	35.5	1.0	-53.0	-25.0	-28.0	
7510.50	-13.1	H	3.0	35.7	1.0	-47.8	-25.0	-22.8	
10014.00	-11.2	H	3.0	36.0	1.0	-46.3	-25.0	-21.3	
Mid Ch, 2593									
5186.00	-17.2	V	3.0	35.4	1.0	-51.7	-25.0	-26.7	
7779.00	-11.7	V	3.0	35.8	1.0	-46.5	-25.0	-21.5	
10372.00	-13.8	V	3.0	35.8	1.0	-48.6	-25.0	-23.6	
5186.00	-16.2	H	3.0	35.4	1.0	-50.6	-25.0	-25.6	
7779.00	-11.1	H	3.0	35.8	1.0	-45.9	-25.0	-20.9	
10372.00	-13.2	H	3.0	35.8	1.0	-48.0	-25.0	-23.0	
High Ch, 2682.5									
5365.00	-13.8	V	3.0	35.4	1.0	-48.2	-25.0	-23.2	
8047.50	-14.3	V	3.0	35.8	1.0	-49.1	-25.0	-24.1	
10730.00	-12.5	V	3.0	35.7	1.0	-47.2	-25.0	-22.2	
5365.00	-13.0	H	3.0	35.4	1.0	-47.5	-25.0	-22.5	
8047.50	-13.2	H	3.0	35.8	1.0	-48.0	-25.0	-23.0	
10730.00	-11.9	H	3.0	35.7	1.0	-46.6	-25.0	-21.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE41	Low Ch, 2501									
10MHz	5002.00	-17.3	V	3.0	35.5	1.0	-51.8	-25.0	-26.8	
	7503.00	-14.9	V	3.0	35.7	1.0	-49.6	-25.0	-24.6	
16QAM	10004.00	-12.1	V	3.0	36.0	1.0	-47.1	-25.0	-22.1	
	5002.00	-17.3	H	3.0	35.5	1.0	-51.8	-25.0	-26.8	
	7503.00	-14.2	H	3.0	35.7	1.0	-49.0	-25.0	-24.0	
	10004.00	-11.1	H	3.0	36.0	1.0	-46.1	-25.0	-21.1	
	Mid Ch, 2593									
	5186.00	-17.2	V	3.0	35.4	1.0	-51.6	-25.0	-26.6	
	7779.00	-12.1	V	3.0	35.8	1.0	-46.9	-25.0	-21.9	
	10372.00	-14.1	V	3.0	35.8	1.0	-49.0	-25.0	-24.0	
	5186.00	-16.5	H	3.0	35.4	1.0	-51.0	-25.0	-26.0	
	7779.00	-10.8	H	3.0	35.8	1.0	-45.6	-25.0	-20.6	
	10372.00	-13.0	H	3.0	35.8	1.0	-47.9	-25.0	-22.9	
	High Ch, 2685									
	5370.00	-13.6	V	3.0	35.4	1.0	-48.0	-25.0	-23.0	
	8055.00	-14.6	V	3.0	35.8	1.0	-49.4	-25.0	-24.4	
	10740.00	-12.0	V	3.0	35.7	1.0	-46.7	-25.0	-21.7	
	5370.00	-13.7	H	3.0	35.4	1.0	-48.2	-25.0	-23.2	
	8055.00	-13.2	H	3.0	35.8	1.0	-48.0	-25.0	-23.0	
	10740.00	-12.0	H	3.0	35.7	1.0	-46.7	-25.0	-21.7	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 2501									
LTE41	5002.00	-17.0	V	3.0	35.5	1.0	-51.5	-25.0	-26.5	
	7503.00	-15.0	V	3.0	35.7	1.0	-49.7	-25.0	-24.7	
10MHz	10004.00	-12.1	V	3.0	36.0	1.0	-47.1	-25.0	-22.1	
	5002.00	-18.3	H	3.0	35.5	1.0	-52.8	-25.0	-27.8	
QPSK	7503.00	-13.9	H	3.0	35.7	1.0	-48.6	-25.0	-23.6	
	10004.00	-11.8	H	3.0	36.0	1.0	-46.8	-25.0	-21.8	
	Mid Ch, 2593									
	5186.00	-17.3	V	3.0	35.4	1.0	-51.7	-25.0	-26.7	
	7779.00	-12.4	V	3.0	35.8	1.0	-47.2	-25.0	-22.2	
	10372.00	-13.5	V	3.0	35.8	1.0	-48.3	-25.0	-23.3	
	5186.00	-16.5	H	3.0	35.4	1.0	-51.0	-25.0	-26.0	
	7779.00	-11.1	H	3.0	35.8	1.0	-45.9	-25.0	-20.9	
	10372.00	-13.4	H	3.0	35.8	1.0	-48.2	-25.0	-23.2	
	High Ch, 2685									
	5370.00	-14.5	V	3.0	35.4	1.0	-49.0	-25.0	-24.0	
	8055.00	-13.6	V	3.0	35.8	1.0	-48.4	-25.0	-23.4	
	10740.00	-12.5	V	3.0	35.7	1.0	-47.1	-25.0	-22.1	
	5370.00	-13.2	H	3.0	35.4	1.0	-47.6	-25.0	-22.6	
	8055.00	-13.6	H	3.0	35.8	1.0	-48.5	-25.0	-23.5	
	10740.00	-11.9	H	3.0	35.7	1.0	-46.6	-25.0	-21.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE41	Low Ch, 2498.5									
5MHz	4997.00	-14.9	V	3.0	35.5	1.0	-49.4	-25.0	-24.4	
16QAM	7495.50	-14.9	V	3.0	35.7	1.0	-49.7	-25.0	-24.7	
	9994.00	-13.6	V	3.0	36.0	1.0	-48.6	-25.0	-23.6	
	4997.00	-16.1	H	3.0	35.5	1.0	-50.6	-25.0	-25.6	
	7495.50	-15.0	H	3.0	35.7	1.0	-49.8	-25.0	-24.8	
	9994.00	-12.8	H	3.0	36.0	1.0	-47.8	-25.0	-22.8	
	Mid Ch, 2593									
	5186.00	-15.2	V	3.0	35.4	1.0	-49.6	-25.0	-24.6	
	7779.00	-14.4	V	3.0	35.8	1.0	-49.2	-25.0	-24.2	
	10372.00	-12.3	V	3.0	35.8	1.0	-47.2	-25.0	-22.2	
	5186.00	-13.9	H	3.0	35.4	1.0	-48.4	-25.0	-23.4	
	7779.00	-13.0	H	3.0	35.8	1.0	-47.7	-25.0	-22.7	
	10372.00	-13.6	H	3.0	35.8	1.0	-48.5	-25.0	-23.5	
	High Ch, 2687.5									
	5375.00	-14.6	V	3.0	35.4	1.0	-49.0	-25.0	-24.0	
	8062.50	-15.2	V	3.0	35.8	1.0	-50.0	-25.0	-25.0	
	10750.00	-12.2	V	3.0	35.7	1.0	-46.9	-25.0	-21.9	
	5375.00	-14.2	H	3.0	35.4	1.0	-48.7	-25.0	-23.7	
	8062.50	-13.5	H	3.0	35.8	1.0	-48.3	-25.0	-23.3	
	10750.00	-11.9	H	3.0	35.7	1.0	-46.6	-25.0	-21.6	

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG
Project #: 15I20514
Date: 4/7/2015
Test Engineer: Jude Semana
Configuration: EUT , AC Adapter and Headset
Location: Chamber G
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 2498.5									
LTE41	4997.00	-14.9	V	3.0	35.5	1.0	-49.4	-25.0	-24.4	
	7495.50	-16.3	V	3.0	35.7	1.0	-51.0	-25.0	-26.0	
5MHz	9994.00	-13.7	V	3.0	36.0	1.0	-48.8	-25.0	-23.8	
	4997.00	-16.1	H	3.0	35.5	1.0	-50.6	-25.0	-25.6	
QPSK	7495.50	-13.8	H	3.0	35.7	1.0	-48.6	-25.0	-23.6	
	9994.00	-12.2	H	3.0	36.0	1.0	-47.2	-25.0	-22.2	
	Mid Ch, 2593									
	5186.00	-14.6	V	3.0	35.4	1.0	-49.1	-25.0	-24.1	
	7779.00	-14.5	V	3.0	35.8	1.0	-49.2	-25.0	-24.2	
	10372.00	-12.5	V	3.0	35.8	1.0	-47.4	-25.0	-22.4	
	5186.00	-12.2	H	3.0	35.4	1.0	-46.6	-25.0	-21.6	
	7779.00	-11.5	H	3.0	35.8	1.0	-46.3	-25.0	-21.3	
	10372.00	-11.9	H	3.0	35.8	1.0	-46.8	-25.0	-21.8	
	High Ch, 2687.5									
	5375.00	-14.4	V	3.0	35.4	1.0	-48.8	-25.0	-23.8	
	8062.50	-15.1	V	3.0	35.8	1.0	-49.9	-25.0	-24.9	
	10750.00	-13.3	V	3.0	35.7	1.0	-47.9	-25.0	-22.9	
	5375.00	-12.9	H	3.0	35.4	1.0	-47.4	-25.0	-22.4	
	8062.50	-14.2	H	3.0	35.8	1.0	-49.0	-25.0	-24.0	
	10750.00	-11.8	H	3.0	35.7	1.0	-46.5	-25.0	-21.5	