High Frequency Substitution Measurement UL Verification Services, Inc.

Company: LG Electronics Project #: 15120286 Date: 3/30/2015 Test Engineer: R.Z Configuration: **EUT ONLY** Location: Chamber G

Mode: LTE_QPSK Band 41 Fundamentals, 20MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

20MHz QPSK

Band

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2506.00	8.80	V	0.9	9.5	17.38	33.0	-15.6	
2506.00	12.77	Н	0.9	9.5	21.35	33.0	-11.7	
Mid Ch								
2593.00	10.26	V	0.9	9.5	18.87	33.0	-14.1	
2593.00	14.40	Н	0.9	9.5	23.01	33.0	-10.0	
High Ch								
2680.00	9.04	V	0.9	9.7	17.87	33.0	-15.1	
2680.00	14.30	Н	0.9	9.7	23.13	33.0	-9.9	

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_16QAM Band 41 Fundamentals, 15MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

15MHz

Band

LTE41

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
ow Ch								
2503.50	10.20	V	0.9	9.5	18.78	33.0	-14.2	-29.8
2503.50	12.90	Н	0.9	9.5	21.48	33.0	-11.5	-26.7
Mid Ch								
2593.00	11.30	V	0.9	9.5	19.91	33.0	-13.1	-29.7
2593.00	13.60	Н	0.9	9.5	22.21	33.0	-10.8	-26.3
ligh Ch								
2682.50	9.40	V	0.9	9.7	18.23	33.0	-14.8	-30.2
2682.50	12.60	Н	0.9	9.7	21.43	33.0	-11.6	-26.9

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15/20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_QPSK Band 41 Fundamentals, 15MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

15MHz QPSK

Band

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2503.50	10.80	V	0.9	9.5	19.38	33.0	-13.6	-29.2
2503.50	13.60	Н	0.9	9.5	22.18	33.0	-10.8	-26.0
Mid Ch								
2593.00	12.10	V	0.9	9.5	20.71	33.0	-12.3	-28.9
2593.00	14.20	Н	0.9	9.5	22.81	33.0	-10.2	-25.7
High Ch								
2682.50	10.10	V	0.9	9.7	18.93	33.0	-14.1	-29.5
2682.50	13.10	Н	0.9	9.7	21.93	33.0	-11.1	-26.4

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15/20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_16QAM Band 41 Fundamentals, 10MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

10MHz 16QAM

Band

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2501.00	9.80	V	0.9	9.5	18.38	33.0	-14.6	-30.2
2501.00	13.50	Н	0.9	9.5	22.08	33.0	-10.9	-26.1
Mid Ch								
2593.00	11.30	V	0.9	9.5	19.91	33.0	-13.1	-29.7
2593.00	14.50	Н	0.9	9.5	23.11	33.0	-9.9	-25.4
High Ch								
2685.00	9.70	V	0.9	9.7	18.54	33.0	-14.5	-29.9
2685.00	13.60	Н	0.9	9.7	22.44	33.0	-10.6	-25.9

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15/20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_QPSK Band 41 Fundamentals, 10MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

10MHz QPSK

Band

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2501.00	10.50	V	0.9	9.5	19.08	33.0	-13.9	-29.5
2501.00	14.10	Н	0.9	9.5	22.68	33.0	-10.3	-25.5
Mid Ch								
2593.00	12.00	V	0.9	9.5	20.61	33.0	-12.4	-29.0
2593.00	15.10	Н	0.9	9.5	23.71	33.0	-9.3	-24.8
High Ch								
2685.00	10.40	V	0.9	9.7	19.24	33.0	-13.8	-29.2
2685.00	14.20	Н	0.9	9.7	23.04	33.0	-10.0	-25.3
				•		^		

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_16QAM Band 41 Fundamentals, 5MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

5MHz 16QAM

Band

LTE41

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2498.50	8.30	V	0.9	9.5	16.87	33.0	-16.1	-31.7
2498.50	13.80	Н	0.9	9.5	22.37	33.0	-10.6	-25.8
Mid Ch								
2593.00	9.60	V	0.9	9.5	18.21	33.0	-14.8	-31.4
2593.00	15.00	Н	0.9	9.5	23.61	33.0	-9.4	-24.9
High Ch								
2687.50	8.00	V	0.9	9.7	16.85	33.0	-16.2	-31.6
2687.50	14.50	Н	0.9	9.7	23.35	33.0	-9.7	-25.0

FAX: (510) 661-0888

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

 Configuration:
 EUT ONLY

 Location:
 Chamber G

Mode: LTE_QPSK Band 41 Fundamentals, 5MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

5MHz QPSK

Band

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
2498.50	8.80	V	0.9	9.5	17.37	33.0	-15.6	-31.2
2498.50	14.40	Н	0.9	9.5	22.97	33.0	-10.0	-25.2
Mid Ch								
2593.00	10.50	V	0.9	9.5	19.11	33.0	-13.9	-30.5
2593.00	15.60	Н	0.9	9.5	24.21	33.0	-8.8	-24.3
High Ch								
2687.50	8.90	V	0.9	9.7	17.75	33.0	-15.3	-30.7
2687.50	15.13	Н	0.9	9.7	23.98	33.0	-9.0	-24.4

11.2. ADDITIONAL TESTS (PHONE WITH SMART COVER)

11.2.1. RADIATED POWER (ERP & EIRP) WITH SMART COVER

11.2.1.1. CDMA (MID CHANNEL ONLY)

				tion Measurement	t			
		UL Verificat	ion Services C	hamber G				
Company		LG						
Project #:	:	15120286						
Date:		3/31/2015						
Test Engi		R.Z						
Configura		EUT w/ Smart C						
Mode:		CDMA EVDO B	3C1					
	ion: Horn T59 S	aboutation, c	on own oubic					
f			Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
f GHz	SG reading (dBm)	Ant. Pol.		Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
GHz Mid Ch	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi)	(dBm)	(dBm)	(dB)	Notes
GHz Mid Ch 1.8800	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi)	(dBm)	(dBm)	(dB)	Notes
GHz Mid Ch 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes
GHz Mid Ch 1.8800 1.8800	SG reading (dBm) 16.8 17.4	Ant. Pol. (H/V)	Cable Loss (dB)	(dBi) 9.20	(dBm) 25.10	(dBm) 33.0	(dB) -7.9	Notes

High Frequency Substitution Measurement

UL Verification Services Chamber G

 Company:
 LG

 Project #:
 15I20286

 Date:
 3/31/2015

 Test Engineer:
 R.Z

Configuration: EUT w/ Smart Case
Mode: CDMA EVDO BC0

BC0 Test Equipment:

Band

Receiving: T899, and Chamber G Cable Substitution: Dipole T273, 6ft SMA Cable

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Mid Ch			-					
836.52	15.40	V	0.9	0.0	14.50	38.5	-23.9	
836.52	22.96	Н	0.9	0.0	22.06	38.5	-16.4	

Rev. 3.17.11

High Frequency Substitution Measurement

UL Verification Services Chamber G

 Company:
 LG

 Project #:
 15/20286

 Date:
 3/31/2015

 Test Engineer:
 R.Z

Configuration: EUT w/ Smart Case
Mode: CDMA EVDO BC10

BC10 Test Equipment:

Band

Receiving: T899, and Chamber G Cable Substitution: Dipole T273, 6ft SMA Cable

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Mid Ch								
820.50	16.85	V	0.9	0.0	15.95	38.5	-22.5	
820.50	23.99	Н	0.9	0.0	23.09	38.5	-15.4	

Rev. 3.17.11

11.2.1.2. LTE (MID CHANNEL ONLY)

High Frequency Substitution Measurement UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15I20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

Band

LTE41

5MHz

Configuration: EUT w/ Smart Case
Location: Chamber G

Chambe

Mode: LTE_QPSK Band 41 Fundamentals, 5MHz Bandwidth

Test Equpment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, 6ft SMA Cable

QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch	(=5111)	(, •)	(45)	(421)	(42111)	(45111)	(45)	
2593.00	9.70	V	0.9	9.5	18.31	33.0	-14.7	-30.5
2593.00	14.60	Н	0.9	9.5	23.21	33.0	-9.8	-24.3

High Frequency Substitution Measurement

UL Verification Services, Inc.

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/31/2015

 Test Engineer:
 R.Z

Configuration: EUT w/ Smart Case **Location:** Chamber G

Mode: LTE_QPSK Band 26 Fundamentals, 1.4MHz Bandwidth

1.4MHz Receiving: Hybri

Band

LTE26

QPSK

Receiving: Hybrid T899, and Chamber G SMA Cables Substitution: Dipole T273, 6ft SMA Cable Warehouse

ERP SG reading Ant. Pol. Cable Loss Antenna Gain Limit Delta Notes MHz (dBm) (H/V) (dB) (dBd) (dBm) (dBm) (dB) Mid Ch 14.30 0.9 0.0 13.40 38.5 -25.1 831.50 831.50 21.16 н 0.9 0.0 20.26 38.5 -18.2

High Frequency Substitution Measurement

UL Verification Services, Inc.

 Company:
 LG

 Project #:
 15!20286

 Date:
 3/14/2015

 Test Engineer:
 R.Alegre

Configuration: EUT w/ Smart Case Location: Chamber A

Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth

1.4MHz Receiving: Hern

Band

LTE25

QPSK

Receiving: Horn T136, and Chamber A SMA Cables

Substitution: Horn T59, 4ft SMA Cable

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Mid Ch								
1882.50	5.09	V	0.9	7.9	12.06	33.0	-20.9	
1882.50	18.43	Н	0.9	7.9	25.40	33.0	-7.6	

High Frequency Substitution Measurement

UL Verification Services, Inc.

 Company:
 LG

 Project #:
 15120286

 Date:
 4/1/2015

 Test Engineer:
 R.Z

Configuration: EUT w/ Smart Case Location: Chamber A

Mode: LTE_QPSK Band 12 Fundamentals, 1.4MHz Bandwidth

1.4MHz Test Equpment:

Band

LTE12

QPSK

Receiving: Hybrid T130, and Chamber A SMA Cables

Substitution: Dipole T273, 6ft SMA Cable

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Mid Ch								
707.50	10.08	V	0.9	0.0	9.18	38.5	-29.3	
707.50	18.50	Н	0.9	0.0	17.60	38.5	-20.9	

High Frequency Substitution Measurement UL Verification Services, Inc.

LG Electronics

 Company:
 LG Electronic

 Project #:
 15!20286

 Date:
 3/30/2015

 Test Engineer:
 R.Z

Configuration: EUT w/ Smart Case **Location:** Chamber G

Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

1.4MHz Receiving: Hern

Band

LTE4

Receiving: Horn T862, and Chamber G SMA Cables

QPSK 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
Mid Ch								
1732.50	15.30	٧	0.9	8.2	22.57	30.0	-7.4	-21.7
1732.50	15,60	Н	0.9	8.2	22.87	30.0	-7.1	-21.0

11.3. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

<u>LIMIT</u>

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) For mobile station, the attenuation factor shall be not less than 43+10Log(P)dB at the channel edge and (55+10Log(P)dB) at 5.5MHz from the channel edges.

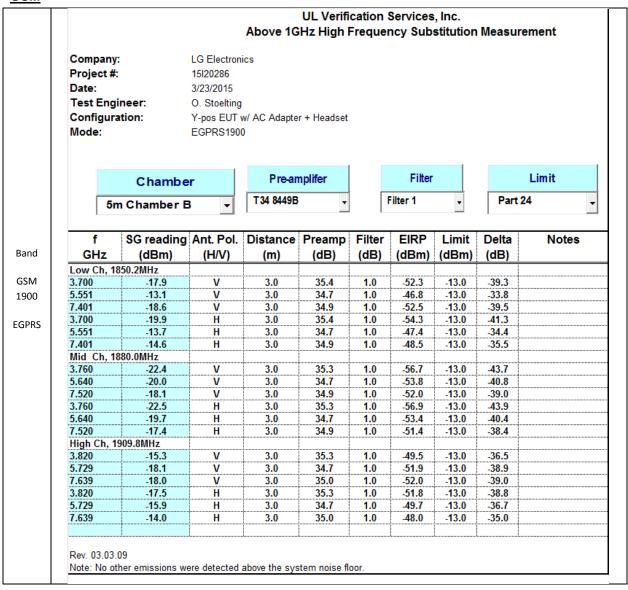
MODES TESTED

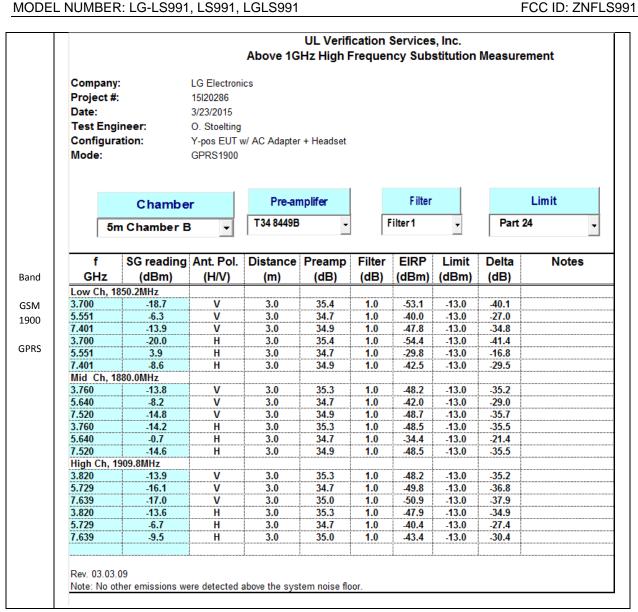
GSM, CDMA, WCDMA, LTE

RESULTS

11.3.1. SPURIOUS RADIATION PLOTS

GSM





DATE: APRIL 20, 2015

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

LG Electronics Company: Project #: 15120286 3/23/2015 Date: Test Engineer: O. Stoelting

Configuration: Z-pos EUT w/ AC Adapter + Headset

Location: Chamber B

EGPRS 850 MHz Harmonics Mode:

Band GSM

850 **EGPRS**

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	24.2								
1648.40	-27.1	V	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2472.60	-28.8	V	3.0	36.4	1.0	-64.2	-13.0	-51.2	
3296.80	-26.8	V	3.0	36.2	1.0	-62.0	-13.0	-49.0	
1648.40	-24.2	Н	3.0	37.0	1.0	-60.2	-13.0	-47.2	
2472.60	-30.5	Н	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3296.80	-26.8	Н	3.0	36.2	1.0	-62.0	-13.0	-49.0	
Mid Ch, 83	6.6								
1673.20	-28.3	V	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2509.80	-28.4	V	3.0	36.4	1.0	-63.8	-13.0	-50.8	
3346.40	-26.3	V	3.0	36.1	1.0	-61.4	-13.0	-48.4	
1673.20	-30.8	Н	3.0	37.0	1.0	-66.8	-13.0	-53.8	
2509.80	-30.6	Н	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3346.40	-26.8	Н	3.0	36.1	1.0	-62.0	-13.0	-49.0	
High Ch, 8	48.8								
1697.60	-30.3	V	3.0	37.0	1.0	-66.3	-13.0	-53.3	
2546.40	-23.9	V	3.0	36.4	1.0	-59.3	-13.0	-46.3	
3395.20	-26.5	V	3.0	36.1	1.0	-61.6	-13.0	-48.6	
1697.60	-30.3	Н	3.0	37.0	1.0	-66.2	-13.0	-53.2	
2546.40	-28.3	Н	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3395.20	-26.5	Н	3.0	36.1	1.0	-61.6	-13.0	-48.6	

 Company:
 LG Electronics

 Project #:
 15l20286

 Date:
 3/23/2015

 Test Engineer:
 O. Stoelting

Configuration: Z-pos EUT w/ AC Adapter + Headset

Location: Chamber B

Mode: GPRS 850 MHz Harmonics

Band

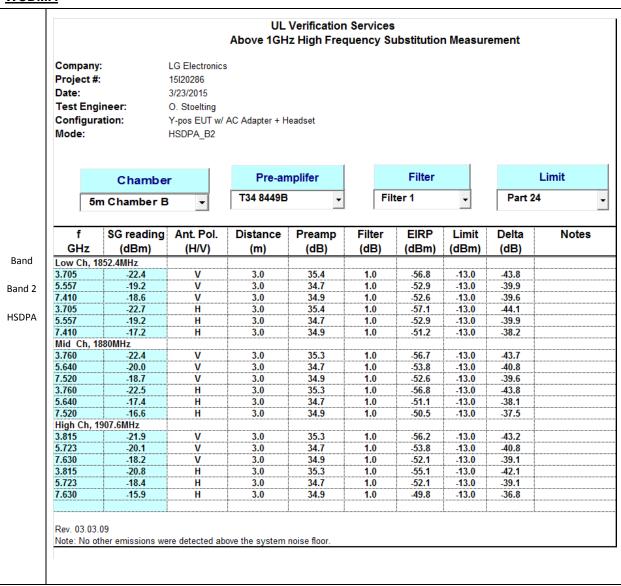
GSM 850

GPRS

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	4.2								
1648.40	-25.7	V	3.0	37.0	1.0	-61.8	-13.0	- 48.8	
2472.60	-27.7	V	3.0	36.4	1.0	-63.2	-13.0	-50.2	
3296.80	-26.6	V	3.0	36.2	1.0	-61.8	-13.0	-48.8	
1648.40	-22.0	Н	3.0	37.0	1.0	-58.1	-13.0	-45.1	
2472.60	-30.3	Н	3.0	36.4	1.0	-65.7	-13.0	-52.7	
3296.80	-26.9	Н	3.0	36.2	1.0	-62.0	-13.0	-49.0	
Mid Ch, 83	6.6								
1673.20	-29.5	V	3.0	37.0	1.0	-65.5	-13.0	-52.5	
2509.80	-25.3	V	3.0	36.4	1.0	-60.7	-13.0	-47.7	
3346.40	-26.6	V	3.0	36.1	1.0	-61.8	-13.0	- 48.8	
1673.20	-28.3	Н	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2509.80	-28.9	Н	3.0	36.4	1.0	-64.3	-13.0	-51.3	
3346.40	-26.8	Н	3.0	36.1	1.0	-61.9	-13.0	-48.9	
High Ch, 84	48.8								
1697.60	-30.3	V	3.0	37.0	1.0	-66.3	-13.0	-53.3	
2546.40	-20.1	V	3.0	36.4	1.0	-55.5	-13.0	-42.5	
3395.20	-26.5	V	3.0	36.1	1.0	-61.6	-13.0	-48.6	
1697.60	-30.9	Н	3.0	37.0	1.0	-66.8	-13.0	-53.8	
2546.40	-28.2	Н	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3395.20	-26.6	Н	3.0	36.1	1.0	-61.7	-13.0	-48.7	
						<u> </u>			

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

WCDMA



DATE: APRIL 20, 2015

FCC ID: ZNFLS991

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/23/2015

 Test Engineer:
 O. Stoelting

Configuration: Z-pos EUT w/ AC Adapter + Headset

Location: Chamber B

Mode: HSDPA Band 5 Harmonics

Band

Band 5
HSDPA

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	6.4								
1652.80	-33.4	V	3.0	37.0	1.0	-69.5	-13.0	-56.5	
2479.20	-28.7	V	3.0	36.4	1.0	-64.1	-13.0	-51.1	
3305.60	-26.6	V	3.0	36.1	1.0	-61.8	-13.0	-48.8	
1652.80	-32.9	Н	3.0	37.0	1.0	-69.0	-13.0	-56.0	
2479.20	-30.4	Н	3.0	36.4	1.0	-65.8	-13.0	-52.8	
3305.60	-26.6	Н	3.0	36.1	1.0	-61.7	-13.0	-48.7	
Mid Ch, 83	6.6								
1673.20	-32.4	V	3.0	37.0	1.0	-68.4	-13.0	-55.4	
2509.80	-28.5	V	3.0	36.4	1.0	-63.9	-13.0	-50.9	
3346.40	-26.7	V	3.0	36.1	1.0	-61.8	-13.0	-48.8	
1673.20	-32.8	Н	3.0	37.0	1.0	-68.8	-13.0	-55.8	
2509.80	-30.3	Н	3.0	36.4	1.0	-65.7	-13.0	-52.7	
3346.40	-26.8	Н	3.0	36.1	1.0	-61.9	-13.0	-48.9	
High Ch, 84	46.6								
1693.20	-32.8	V	3.0	37.0	1.0	-68.7	-13.0	-55.7	
2539.80	-28.1	V	3.0	36.4	1.0	-63.5	-13.0	-50.5	
3386.40	-26.5	V	3.0	36.1	1.0	-61.5	-13.0	-48.5	
1693.20	-32.7	Н	3.0	37.0	1.0	-68.7	-13.0	-55.7	
2539.80	-30.5	Н	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3386.40	-26.6	Н	3.0	36.1	1.0	-61.7	-13.0	-48.7	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics Project #: 15120286 Date: 3/23/2015 Test Engineer: O. Stoelting

Configuration: Z-pos EUT w/ AC Adapter + Headset

Location: Chamber B

Rel99 Band 5 Harmonics Mode:

Band

Band 5 REL99

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	26.4								
1652.80	-32.9	V	3.0	37.0	1.0	-68.9	-13.0	-55.9	
2479.20	-28.8	V	3.0	36.4	1.0	-64.2	-13.0	-51.2	
3305.60	-26.7	V	3.0	36.1	1.0	-61.9	-13.0	-48.9	
1652.80	-32.9	Н	3.0	37.0	1.0	-68.9	-13.0	-55.9	
2479.20	-30.5	Н	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3305.60	-27.0	Н	3.0	36.1	1.0	-62.1	-13.0	-49.1	
Mid Ch, 83	6.6								
1673.20	-32.9	V	3.0	37.0	1.0	-68.9	-13.0	-55.9	
2509.80	-28.3	V	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3346.40	-26.6	V	3.0	36.1	1.0	-61.7	-13.0	-48.7	
1673.20	-32.6	Н	3.0	37.0	1.0	-68.6	-13.0	-55.6	
2509.80	-30.5	Н	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3346.40	-26.9	Н	3.0	36.1	1.0	-62.0	-13.0	-49.0	
High Ch, 84	46.6								
1693.20	-32.7	V	3.0	37.0	1.0	-68.6	-13.0	-55.6	
2539.80	-27.6	V	3.0	36.4	1.0	-63.1	-13.0	-50.1	
3386.40	-26.4	V	3.0	36.1	1.0	-61.5	-13.0	-48.5	
1693.20	-32.2	Н	3.0	37.0	1.0	-68.2	-13.0	-55.2	
2539.80	-30.6	Н	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3386.40	-26.8	Н	3.0	36.1	1.0	-61.8	-13.0	-48.8	

CDMA

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

Company: LG Electronics Project #: 15120286 Date: 4/2/2015 Test Engineer: R.Z

Configuration: EUT , AC Adapter, Headset

Location: Chamber G

Mode: CDMA EVDO BC1 Harmonics

Band

BC1

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	351.25								
3702.50	-15.8	V	3.0	35.9	1.0	-50.7	-13.0	-37.7	
5553.75	-10.3	V	3.0	35.5	1.0	-44.7	-13.0	-31.7	
7405.00	-8.8	V	3.0	35.7	1.0	-43.6	-13.0	-30.6	
3702.50	-15.3	Н	3.0	35.9	1.0	-50.2	-13.0	-37.2	
5553.75	-12.2	Н	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7405.00	-10.9	Н	3.0	35.7	1.0	-45.6	-13.0	-32.6	
Mid Ch, 18	80								
3760.00	-17.8	V	3.0	35.8	1.0	-52.6	-13.0	-39.6	
5640.00	-15.7	V	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7520.00	-7.7	V	3.0	35.7	1.0	-42.5	-13.0	-29.5	
3760.00	-19.1	Н	3.0	35.8	1.0	-53.9	-13.0	-40.9	
5640.00	-15.3	Н	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7520.00	-12.2	Н	3.0	35.7	1.0	-47.0	-13.0	-34.0	
High Ch, 1	908.75								
3817.50	-18.2	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5726.25	-16.2	V	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7635.00	-13.5	V	3.0	35.8	1.0	-48.2	-13.0	-35.2	
3817.50	-18.1	Н	3.0	35.8	1.0	-52.9	-13.0	-39.9	
5726.25	-15.2	Н	3.0	35.5	1.0	-49.7	-13.0	-36.7	
7635.00	-12.3	Н	3.0	35.8	1.0	-47.1	-13.0	-34.1	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter, Headset
Location: Chamber G

Mode: CDMA 1xRTT BC1 Harmonics

Band BC1

1xRTT

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	351.25								
3702.50	-18.3	V	3.0	35.9	1.0	-53.2	-13.0	-40.2	
5553.75	-11.6	V	3.0	35.5	1.0	-46.1	-13.0	-33.1	
7405.00	-10.3	V	3.0	35.7	1.0	-45.1	-13.0	-32.1	
3702.50	-15.8	Н	3.0	35.9	1.0	-50.7	-13.0	-37.7	
5553.75	-13.8	Н	3.0	35.5	1.0	-48.2	-13.0	-35.2	
7405.00	-11.5	Н	3.0	35.7	1.0	-46.2	-13.0	-33.2	
Mid Ch, 18	80								
3760.00	-16.4	V	3.0	35.8	1.0	-51.2	-13.0	-38.2	
5640.00	-13.1	V	3.0	35.5	1.0	-47.6	-13.0	-34.6	
7520.00	-8.2	V	3.0	35.7	1.0	-43.0	-13.0	-30.0	
3760.00	-17.6	Н	3.0	35.8	1.0	-52.4	-13.0	-39.4	
5640.00	-16.5	Н	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7520.00	-11.9	Н	3.0	35.7	1.0	-46.7	-13.0	-33.7	
High Ch, 19	908.75								
3817.50	-17.3	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
5726.25	-12.1	V	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7635.00	-9.4	V	3.0	35.8	1.0	-44.1	-13.0	-31.1	
3817.50	-18.0	Н	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5726.25	-14.2	Н	3.0	35.5	1.0	-48.7	-13.0	-35.7	
7635.00	-11.1	Н	3.0	35.8	1.0	-45.9	-13.0	-32.9	
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UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter, Headset Location: Chamber G

Mode: CDMA EVDO BC0 Harmonics

Band

всо

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	4.7								
1649.40	-21.9	V	3.0	37.4	1.0	-58.3	-13.0	-45.3	
2474.10	-24.4	V	3.0	36.4	1.0	-59.8	-13.0	-46.8	
3298.80	-20.0	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
1649.40	-26.4	Н	3.0	37.4	1.0	-62.8	-13.0	-49.8	
2474.10	-18.3	Н	3.0	36.4	1.0	-53.7	-13.0	-40.7	
3298.80	-19.9	Н	3.0	35.8	1.0	-54.7	-13.0	-41.7	
Mid Ch, 836	5.52								
1673.04	-23.5	V	3.0	37.3	1.0	-59.8	-13.0	-46.8	
2509.56	-25.7	V	3.0	36.4	1.0	-61.1	-13.0	-48.1	
3346.08	-21.3	V	3.0	35.8	1.0	-56.1	-13.0	-43.1	
1673.04	-26.3	Н	3.0	37.3	1.0	-62.6	-13.0	-49.6	
2509.56	-23.4	Н	3.0	36.4	1.0	- 58.8	-13.0	-45.8	
3346.08	-20.2	Н	3.0	35.8	1.0	-55.0	-13.0	-42.0	
High Ch, 84	18.31								
1696.62	-22.3	V	3.0	37.3	1.0	-58.6	-13.0	-45.6	
2544.93	-24.4	V	3.0	36.3	1.0	-59.7	-13.0	-46.7	
3393.24	-20.6	V	3.0	35.7	1.0	-55.3	-13.0	-42.3	
1696.62	-25.5	Н	3.0	37.3	1.0	-61.8	-13.0	-48.8	
2544.93	-23.4	Н	3.0	36.3	1.0	-58.7	-13.0	-45.7	
3393.24	-19.8	Н	3.0	35.7	1.0	-54.5	-13.0	-41.5	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter, Headset

Location: Chamber G

Mode: CDMA 1xRTT BC0 Harmonics

Band BC0

1xRTT

SG reading Ant. Pol. Distance Filter **EIRP** Delta Notes Preamp Limit MHz (dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) Low Ch, 824.7 37.4 -13.0 -46.0 1649.40 -22.6 3.0 1.0 -59.0 2474.10 -15.3 V 3.0 36.4 1.0 -50.7 -13.0 -37.7 3298.80 -19.1 V 3.0 35.8 1.0 -53.9 -13.0 -40.9 1649.40 -25.7 Н 3.0 37.4 -62.1 -13.0 -49.1 1.0 2474.10 -12.7 Н 3.0 36.4 1.0 48.1 -13.0 -35.1 3298.80 Н -19.7 3.0 35.8 -54.5 -41.5 1.0 -13.0Mid Ch, 836.52 1673.04 -23.9 3.0 37.3 -13.0 -47.2 1.0 -60.2 2509.56 -57.9 44.9 .22.5 V 3.0 36.4 1.0 -13.03346.08 V 35.8 -20.4 3.0 1.0 -55.2 -13.042.2 1673.04 -27.1 Н 3.0 37.3 1.0 -63.4 -13.0 -50.4 2509.56 -4.5 Н 3.0 36.4 1.0 -39.9 -13.0 -26.9 3346.08 -19.9 Н 3.0 35.8 1.0 -54.7 -13.0 -41.7 High Ch, 848.31 1696.62 -26.0 V 3.0 37.3 1.0 -62.3 -13.0 -49.3 2544.93 -42.7 -20.4 3.0 36.3 1.0 -55.7 -13.0 3393.24 41.9 -20.2 3.0 35.7 1.0 -54.9 -13.0 1696.62 Η -50.9 -27.6 37.3 -63.9 -13.0 3.0 1.0 3.0 2544.93 Н 36.3 -43.0 -20.7 1.0 -56.0 -13.0 3393.24 -19.6 Н 3.0 35.7 1.0 -54.3 -13.0 -41.3

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter, Headset

Location: Chamber G

Mode: CDMA EVDO BC10 Harmonics

Band

BC10

MHz Low Ch, 817.9M 1.636 2.454 3.272 1.636 2.454 3.272 Mid Ch, 820.5M 1.641 2.462	-25.2 -20.8 -20.2 -26.4	(H/V) V V	3.0 3.0	(dB) 37.4	(dB)	(dBm)	(dBm)	(dB)	
1.636 2.454 3.272 1.636 2.454 3.272 Mid Ch, 820.5M 1.641 2.462	-25.2 -20.8 -20.2 -26.4	V			1.0	64.6			
2.454 3.272 1.636 2.454 3.272 Mid Ch, 820.5W 1.641 2.462	-20.8 -20.2 -26.4	V			1.0	C4 C			
3.272 1.636 2.454 3.272 Mid Ch, 820.5W 1.641 2.462	-20.2 -26.4	-	3.0	· i		-61.6	-13.0	-48.6	
1.636 2.454 3.272 Mid Ch, 820.5N 1.641 2.462	-26.4	V		36.4	1.0	-56.2	-13.0	-43.2	
2.454 3.272 Mid Ch, 820.5N 1.641 2.462			3.0	35.8	1.0	-55.0	-13.0	-42.0	
3.272 Mid Ch, 820.5N 1.641 2.462		Н	3.0	37.4	1.0	-62.8	-13.0	-49.8	
Mid Ch, 820.5N 1.641 2.462	-22.8	Н	3.0	36.4	1.0	-58.2	-13.0	-45.2	
1.641 2.462	-20.7	Н	3.0	35.8	1.0	-55.5	-13.0	-42.5	
2.462							[,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	-25.7	V	3.0	37.3	1.0	-62.0	-13.0	-49.0	
0.000	-10.6	V	3.0	36.4	1.0	-46.0	-13.0	-33.0	
3.282	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
1.641	-25.9	Н	3.0	37.3	1.0	-62.2	-13.0	-49.2	
2.462	-6.2	Н	3.0	36.4	1.0	-41.6	-13.0	-28.6	
3.282	-19.9	Н	3.0	35.8	1.0	-54.7	-13.0	-41.7	
High Ch, 823.1N	MHz			ļ ļ	1		<u> </u>		
1.646	-22.1	V	3.0	37.3	1.0	-58.4	-13.0	-45.4	
2.469	-21.9	V	3.0	36.3	1.0	-57.2	-13.0	-44.2	
3.292	-20.5	V	3.0	35.7	1.0	-55.2	-13.0	-42.2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1.646	-25.2	Н	3.0	37.3	1.0	-61.5	-13.0	-48.5	
2.469	-23.4	Н	3.0	36.3	1.0	-58.7	-13.0	-45.7	
3.292	-20.3	Н	3.0	35.7	1.0	-55.0	-13.0	-42.0	
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UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter, Headset

Location: Chamber G

Mode: CDMA 1xRTT BC10 Harmonics

Band BC10

1xRTT

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 8	17.9MHz								
1.636	-25.8	V	3.0	37.4	1.0	-62.2	-13.0	-49.2	
2.454	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3.272	-21.0	V	3.0	35.8	1.0	-55.8	-13.0	-42.8	
1.636	-26.6	Н	3.0	37.4	1.0	-63.0	-13.0	-50.0	
2.454	-23.5	Н	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3.272	-20.1	Н	3.0	35.8	1.0	-54.9	-13.0	-41.9	
Mid Ch, 82	20.5MHz								
1.641	-25.0	V	3.0	37.3	1.0	-61.3	-13.0	-48.3	
2.462	-9.4	V	3.0	36.4	1.0	-44.8	-13.0	-31.8	
3.282	-19.9	V	3.0	35.8	1.0	-54.7	-13.0	-41.7	
1.641	-25.0	Н	3.0	37.3	1.0	-61.3	-13.0	-48.3	
2.462	-2.2	Н	3.0	36.4	1.0	-37.6	-13.0	-24.6	
3.282	-20.9	Н	3.0	35.8	1.0	-55.7	-13.0	-42.7	
High Ch, 8	23.1MHz								
1.646	-23.1	V	3.0	37.3	1.0	-59.4	-13.0	-46.4	
2.469	-21.7	V	3.0	36.3	1.0	-57.0	-13.0	-44.0	
3.292	-21.4	V	3.0	35.7	1.0	-56.1	-13.0	-43.1	
1.646	-25.6	Н	3.0	37.3	1.0	-61.9	-13.0	-48.9	
2.469	-23.5	Н	3.0	36.3	1.0	-58.8	-13.0	-45.8	
3.292	-21.0	Н	3.0	35.7	1.0	-55.7	-13.0	-42.7	

LTE Band 2

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

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

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, 18	360								
3720.00	-18.7	V	3.0	35.8	1.0	-53.6	-13.0	-40.6	
5580.00	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7440.00	-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
3720.00	-20.6	Н	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5580.00	-15.4	Н	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7440.00	-16.5	Н	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 18	80								
3760.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5640.00	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7520.00	-13.0	V	3.0	35.7	1.0	-47.7	-13.0	-34.7	
3760.00	-21.1	Н	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5640.00	-18.3	Н	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7520.00	-15.8	Н	3.0	35.7	1.0	-50.6	-13.0	-37.6	
High Ch, 19	900								
3800.00	-20.0	V	3.0	35.8	1.0	-54.7	-13.0	-41.7	
5700.00	-17.8	V	3.0	35.5	1.0	-52.3	-13.0	-39.3	
7600.00	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3800.00	-20.4	Н	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5700.00	-18.3	Н	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7600.00	-14.8	Н	3.0	35.8	1.0	-49.6	-13.0	-36.6	

Notes

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

SG reading

Mode: LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth

Distance

Ant. Pol.

Band LTE2

20MHz

QPSK

MHz (dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) Low Ch, 1860 3720.00 3.0 35.8 1.0 -53.2 -13.0 40.2 5580.00 -13.7 3.0 35.5 1.0 -48.2 -13.0 -35.2 7440.00 -14.5 3.0 35.7 1.0 -49.2 -13.0 -36.2 3720.00 -55.6 -20.7 Н 3.0 35.8 1.0 -13.0 42.6 5580.00 -37.7 Н 3.0 35.5 -50.7 -13.0 -16.21.0 7440.00 Н -13.0 -16.5 3.0 35.7 1.0 -51.3 -38.3 Mid Ch, 1880 3760.00 -20.2 V 3.0 35.8 1.0 -55.0 -13.0 -42.0 5640.00 -14.9 V 3.0 35.5 1.0 49.3 -13.0 -36.3 7520.00 -12.8 V 3.0 35.7 1.0 -47.6 -13.0 -34.6 3760.00 -20.7 Н 3.0 35.8 1.0 -55.5 -13.0 42.5 5640.00 3.0 35.5 1.0 -52.8 -13.0 -39.8 7520.00 -15.9 35.7 -50.7 Н 3.0 1.0 -13.0 -37.7 High Ch, 1900 3800.00 -20.2 3.0 35.8 1.0 -55.0 -13.0 -42.0 5700.00 V -52.9 -39.9 -18.43.0 35.5 1.0 -13.0 7600.00 V 3.0 35.8 -48.8 -13.0 -35.8 -14-0 1.0 3800.00 -20.0Н 3.0 35.8 1.0 -54.8 -13.0 41.8 5700.00 -17.5 Н 3.0 35.5 1.0 -52.0 -13.0 -39.0 7600.00 -15.6 Н 3.0 35.8 1.0 -50.3 -13.0 -37.3

Filter

EIRP

Limit

Delta

Preamp

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth

Band LTE2

15MHz

16QAM

Low Ch, 1857.5 3715.00 -1 5572.50 -8 7430.00 -1 3715.00 -2 5572.50 -1 7430.00 -1 Mid Ch, 1880 3760.00 -1	8.5 V 8.2 V 4.2 V 9.7 H	(m) 3.0 3.0	(dB) 35.8	(dB)	(dBm) -53,3	(dBm) -13.0	(dB)	
3715.00 -1 5572.50 -8 7430.00 -1 3715.00 -2 5572.50 -1 7430.00 -1 Mid Ch, 1880 3760.00 -1	8.2 V 4.2 V			1.0	-53.3	13.0	40.3	
5572.50 8 7430.00 -1 3715.00 -2 5572.50 -1 7430.00 -1 Mid Ch, 1880 3760.00 -1	8.2 V 4.2 V			1.0	-53.3	13.0	40.3	
7430.00 -1. 3715.00 -2 5572.50 -1. 7430.00 -1. Mid Ch, 1880 3760.00 -1.	4.2 V	3.0	3 E E			-13.0	-40.3	
3715.00 -2 5572.50 -1 7430.00 -1 Mid Ch, 1880 3760.00 -1			35.5	1.0	-42.6	-13.0	-29.6	
5572.50 -1 7430.00 -1 Mid Ch, 1880 3760.00 -1	0.7 H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
7430.00 -1 Mid Ch, 1880 3760.00 -1		3.0	35.8	1.0	-55.6	-13.0	-42.6	
Mid Ch, 1880 3760.00 -1	5.8 H	3.0	35.5	1.0	-50.3	-13.0	-37.3	
3760.00 -1	6.6 H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
	8.2 V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5640.00 -1	7.7 V	3.0	35.5	1.0	-52.2	-13.0	-39.2	
7520.00 -1	2.5 V	3.0	35.7	1.0	-47.3	-13.0	-34.3	
3760.00 -2	0.6 H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5640.00 -1	8.2 H	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7520.00 -1	4.2 H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
High Ch, 1902.5								
3805.00 -2	0.5 V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5707.50 -1	7.6 V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7610.00 -1	3.3 V	3.0	35.8	1.0	-48.1	-13.0	-35.1	
3805.00 -2	20.5 H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5707.50 -1	7.9 H	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7610.00 -1	1.5				JEIT			
	7.5 H	3.0	35.8	1.0	-50.4	-13.0	-37.4	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth

Band LTE2

15MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	357.5								
3715.00	-19.4	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5572.50	-9.0	V	3.0	35.5	1.0	-43.5	-13.0	-30.5	
7430.00	-15.1	V	3.0	35.7	1.0	-49.9	-13.0	-36.9	
3715.00	-21.1	Н	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5572.50	-15.9	Н	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7430.00	-16.3	Н	3.0	35.7	1.0	-51.0	-13.0	-38.0	
Mid Ch, 18	80								
3760.00	-19.5	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5640.00	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7520.00	-12.7	V	3.0	35.7	1.0	-47.5	-13.0	-34.5	
3760.00	-20.2	Н	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5640.00	-18.6	Н	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7520.00	-14.9	Н	3.0	35.7	1.0	-49.6	-13.0	-36.6	
High Ch, 19									
3805.00	-20.0	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5707.50	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7610.00	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3805.00	-20.2	Н	3.0	35.8	1.0	-54.9	-13.0	-41.9	
5707.50	-17.5	Н	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7610.00	-15.9	Н	3.0	35.8	1.0	-50.6	-13.0	-37.6	
			<u></u>			<u> </u>			

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 2 Harmonics, 10MHz Bandwidth

Band LTE2

10MHz 16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	355								
3710.00	-19.0	V	3.0	35.9	1.0	-53.8	-13.0	-40.8	
5565.00	-21.7	V	3.0	35.5	1.0	-56.1	-13.0	-43.1	
7420.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
3710.00	-20.9	Н	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5565.00	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7420.00	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	80								
3760.00	-22.4	V	3.0	35.8	1.0	-57.2	-13.0	-44.2	
5640.00	-19.1	V	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7520.00	-16.9	V	3.0	35.7	1.0	-51.7	-13.0	-38.7	
3760.00	-24.9	Н	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5640.00	-19.6	Н	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7520.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 19	905								
3810.00	-23.2	V	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5715.00	-18.8	V	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7620.00	-17.2	V	3.0	35.8	1.0	-52.0	-13.0	-39.0	
3810.00	-23.7	Н	3.0	35.8	1.0	-58.5	-13.0	-45.5	
5715.00	-20.0	Н	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7620.00	-16.4	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 2 Harmonics, 10MHz Bandwidth

Band LTE2

10MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 1855									
3710.00	-17.4	V	3.0	35.9	1.0	-52.3	-13.0	-39.3	
5565.00	-21.2	V	3.0	35.5	1.0	-55.7	-13.0	-42.7	
7420.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3710.00	-19.9	Н	3.0	35.9	1.0	-54.7	-13.0	-41.7	
5565.00	-21.0	Н	3.0	35.5	1.0	-55.5	-13.0	-42.5	
7420.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 18	80								
3760.00	-22.3	V	3.0	35.8	1.0	-57.1	-13.0	-44.1	
5640.00	-19.1	V	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7520.00	-17.3	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
3760.00	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5640.00	-19.1	Н	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7520.00	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 19	905								
3810.00	-24.2	V	3.0	35.8	1.0	-59.0	-13.0	-46.0	
5715.00	-20.9	V	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7620.00	-14.5	V	3.0	35.8	1.0	-49.2	-13.0	-36.2	
3810.00	-23.6	Н	3.0	35.8	1.0	-58.4	-13.0	-45.4	
5715.00	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7620.00	-16.0	Н	3.0	35.8	1.0	-50.8	-13.0	-37.8	
			^						

Above 1GHz High Frequency Substitution Measurement

LG Electronics Company: Project #: 15120286 Date: 3/13/2015 Test Engineer: O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 2 Harmonics, 5MHz Bandwidth

Band LTE2 5MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	52.5								
3705.00	-25.2	V	3.0	35.9	1.0	-60.0	-13.0	-47.0	
5557.50	-10.5	V	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7410.00	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
3705.00	-23.6	Н	3.0	35.9	1.0	-58.5	-13.0	-45.5	
5557.50	-14.0	Н	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7410.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 188	30								
3760.00	-24.1	V	3.0	35.8	1.0	-58.9	-13.0	-45.9	
5640.00	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7520.00	-17.5	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3760.00	-25.0	Н	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5640.00	-18.8	Н	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7520.00	-17.2	Н	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 19	07.5								
3815.00	-24.4	V	3.0	35.8	1.0	-59.1	-13.0	-46.1	
5722.50	-14.1	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7630.00	-15.2	V	3.0	35.8	1.0	-50.0	-13.0	-37.0	
3815.00	-24.8	Н	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5722.50	-19.4	Н	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7630.00	-16.3	Н	3.0	35.8	1.0	-51.1	-13.0	-38.1	

FORM NO: CCSUP4701I

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 2 Harmonics, 5MHz Bandwidth

Band LTE2

5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 1	852.5								
3705.00	-24.5	V	3.0	35.9	1.0	-59.3	-13.0	-46.3	
5557.50	-12.1	V	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7410.00	-14.3	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3705.00	-23.2	Н	3.0	35.9	1.0	-58.1	-13.0	-45.1	
5557.50	-14.2	Н	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7410.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 18	80								
3760.00	-24.3	V	3.0	35.8	1.0	-59.1	-13.0	-46.1	
5640.00	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7520.00	-17.6	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3760.00	-24.7	Н	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5640.00	-18.1	Н	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7520.00	-16.9	Н	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 1	907.5								
3815.00	-24.4	V	3.0	35.8	1.0	-59.1	-13.0	-46.1	
5722.50	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7630.00	-15.7	V	3.0	35.8	1.0	-50.5	-13.0	-37.5	
3815.00	-24.4	Н	3.0	35.8	1.0	-59.2	-13.0	-46.2	
5722.50	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7630.00	-16.4	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 2 Harmonics, 3MHz Bandwidth

Band LTE2 3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	351.5								
3703.00	-23.3	V	3.0	35.9	1.0	-58.2	-13.0	-45.2	
5554.50	-15.9	V	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7406.00	-17.4	V	3.0	35.7	1.0	-52.2	-13.0	-39.2	
3703.00	-25.3	Н	3.0	35.9	1.0	-60.1	-13.0	-47.1	
5554.50	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7406.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	80								
3760.00	-21.4	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5640.00	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7520.00	-14.3	V	3.0	35.7	1.0	-49.1	-13.0	-36.1	
3760.00	-23.4	Н	3.0	35.8	1.0	-58.2	-13.0	-45.2	
5640.00	-20.8	Н	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7520.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1	908.5								
3817.00	-22.5	V	3.0	35.8	1.0	-57.2	-13.0	-44.2	
5725.50	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7634.00	-16.7	V	3.0	35.8	1.0	-51.5	-13.0	-38.5	
3817.00	-23.2	Н	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5725.50	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7634.00	-16.5	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 2 Harmonics, 3MHz Bandwidth

Band LTE2

3MHz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. 18	 	()	1,	(42)	(uz)	\u2/	(abiii)	(0.5)	
3705.00	-22.7	V	3.0	35.9	1.0	-57.6	-13.0	-44.6	
5557.50	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7410.00	-16.9	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3705.00	-25.3	Н	3.0	35.9	1.0	-60.2	-13.0	-47.2	
5557.50	-20.9	Н	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7410.00	-16.6	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 18	80								
3760.00	-21.9	V	3.0	35.8	1.0	-56.7	-13.0	-43.7	
5640.00	-16.2	V	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7520.00	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3760.00	-23.2	Н	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5640.00	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7520.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 19	907.5								
3815.00	-22.2	V	3.0	35.8	1.0	-56.9	-13.0	-43.9	
5722.50	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7630.00	-16.7	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
3815.00	-23.1	Н	3.0	35.8	1.0	-57.9	-13.0	-44.9	
5722.50	-19.4	Н	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7630.00	-16.2	Н	3.0	35.8	1.0	-50.9	-13.0	-37.9	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth

Band LTE2

1.4MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	50.7								
3701.40	-24.9	V	3.0	35.9	1.0	-59.7	-13.0	-46.7	
5552.10	-13.7	V	3.0	35.5	1.0	-48.2	-13.0	-35.2	
7402.80	-15.7	V	3.0	35.7	1.0	-50.4	-13.0	-37.4	
3701.40	-23.1	Н	3.0	35.9	1.0	-58.0	-13.0	-45.0	
5552.10	-20.0	Н	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7402.80	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	B0								
3760.00	-24.7	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
5640.00	-17.9	V	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7520.00	-17.0	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
3760.00	-24.9	Н	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5640.00	-20.7	Н	3.0	35.5	1.0	-55.2	-13.0	-42.2	
7520.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 19	909.3								
3818.60	-21.0	V	3.0	35.8	1.0	-55.7	-13.0	-42.7	
5727.90	-18.7	V	3.0	35.5	1.0	-53.2	-13.0	-40.2	
7637.20	-17.2	V	3.0	35.8	1.0	-52.0	-13.0	-39.0	
3818.60	-25.0	Н	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5727.90	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7637.20	-15.3	Н	3.0	35.8	1.0	-50.1	-13.0	-37.1	

FORM NO: CCSUP4701I

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth

Band LTE2

1.4MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
ow Ch, 18	350.7								
3701.40	-24.9	V	3.0	35.9	1.0	-59.7	-13.0	-46.7	
5552.10	-13.6	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
7402.80	-16.6	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
3701.40	-23.8	Н	3.0	35.9	1.0	-58.7	-13.0	-45.7	
5552.10	-20.6	Н	3.0	35.5	1.0	-55.1	-13.0	-42.1	
7402.80	-16.7	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 18	80								
3760.00	-24.8	V	3.0	35.8	1.0	-59.6	-13.0	-46.6	
5640.00	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7520.00	-17.7	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3760.00	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5640.00	-20.2	Н	3.0	35.5	1.0	-54.7	-13.0	-41.7	
7520.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1	909.3								
3818.60	-22.1	V	3.0	35.8	1.0	-56.9	-13.0	-43.9	
5727.90	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7637.20	-17.2	V	3.0	35.8	1.0	-51.9	-13.0	-38.9	
3818.60	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5727.90	-19.6	Н	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7637.20	-15.4	Н	3.0	35.8	1.0	-50.2	-13.0	-37.2	

REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015 FCC ID: ZNFLS991 MODEL NUMBER: LG-LS991, LS991, LGLS991

LTE Band 4

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics Project #: 15120286 Date: 3/15/2015 Test Engineer: O. Stoelting

X-pos EUT/ AC Charger/ Headset Configuration:

Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth

Band

LTE4 20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	/20								
3440.00	-16.6	V	3.0	36.0	1.0	-51.6	-13.0	-38.6	
5160.00	-18.6	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
6880.00	-18.5	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	
3440.00	-24.3	Н	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5160.00	-18.3	Н	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6880.00	-17.0	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 17	32.5								
3465.00	-19.6	V	3.0	36.0	1.0	-54.7	-13.0	-41.7	
5197.50	-18.8	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3465.00	-22.6	Н	3.0	36.0	1.0	-57.6	-13.0	-44.6	
5197.50	-18.4	Н	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-17.0	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1	745								
3490.00	-17.0	V	3.0	36.0	1.0	-52.0	-13.0	-39.0	
5235.00	-19.5	V	3.0	35.4	1.0	-53.9	-13.0	-40.9	
6980.00	-18.1	V	3.0	35.7	1.0	-52.8	-13.0	-39.8	
3490.00	-21.5	Н	3.0	36.0	1.0	-56.6	-13.0	-43.6	
5235.00	-18.9	Н	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6980.00	-16.8	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
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Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15I20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth

Band LTE4

20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	20								
3440.00	-17.4	V	3.0	36.0	1.0	-52.5	-13.0	-39.5	
5160.00	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6880.00	-18.6	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	
3440.00	-24.0	Н	3.0	36.0	1.0	-59.1	-13.0	-46.1	
5160.00	-18.3	Н	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6880.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 173	32.5								
3465.00	-19.4	V	3.0	36.0	1.0	-54.4	-13.0	-41.4	
5197.50	-19.1	V	3.0	35.4	1.0	-53.6	-13.0	-40.6	
6930.00	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3465.00	-22.5	Н	3.0	36.0	1.0	-57.6	-13.0	-44.6	
5197.50	-18.4	Н	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 17	45								
3490.00	-17.4	V	3.0	36.0	1.0	-52.5	-13.0	-39.5	
5235.00	-19.5	V	3.0	35.4	1.0	-54.0	-13.0	-41.0	
6980.00	-16.8	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
3490.00	-20.9	Н	3.0	36.0	1.0	-55.9	-13.0	-42.9	
5235.00	-19.3	Н	3.0	35.4	1.0	-53.7	-13.0	-40.7	
6980.00	-17.0	Н	3.0	35.7	1.0	-51.7	-13.0	-38.7	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth

Band LTE4 15MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	17.5								
3435.00	-24.3	V	3.0	36.1	1.0	-59.3	-13.0	-46.3	
5152.50	-18.1	V	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6870.00	-19.1	V	3.0	35.7	1.0	-53.8	-13.0	-40.8	
3435.00	-21.9	Н	3.0	36.1	1.0	-56.9	-13.0	-43.9	
5152.50	-17.9	Н	3.0	35.4	1.0	-52.4	-13.0	-39.4	
6870.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 17:	32.5								
3465.00	-18.5	V	3.0	36.0	1.0	-53.5	-13.0	-40.5	
5197.50	-18.8	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-18.6	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
3465.00	-23.4	Н	3.0	36.0	1.0	-58.5	-13.0	-45.5	
5197.50	-18.0	Н	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6930.00	-17.0	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 17	747.5								
3495.00	-19.0	V	3.0	36.0	1.0	-54.0	-13.0	-41.0	
5242.50	-18.1	V	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6990.00	-18.4	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
3495.00	-11.0	Н	3.0	36.0	1.0	-46.0	-13.0	-33.0	
5242.50	-18.9	Н	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6990.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth

Band LTE4

15MHz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 17	· · · · · ·	(2)		(/	(/	(==:::)	()	1/	
3435.00	-23.9	V	3.0	36.1	1.0	-59.0	-13.0	-46.0	
5152.50	-18.8	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6870.00	-18.7	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
3435.00	-22.4	Н	3.0	36.1	1.0	-57.4	-13.0	-44.4	
5152.50	-18.0	Н	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6870.00	-16.1	Н	3.0	35.7	1.0	-50.7	-13.0	-37.7	
Mid Ch, 17	32.5								
3465.00	-19.6	V	3.0	36.0	1.0	-54.6	-13.0	-41.6	
5197.50	-18.9	V	3.0	35.4	1.0	-53.4	-13.0	-40.4	
6930.00	-18.6	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
3465.00	-23.9	Н	3.0	36.0	1.0	-58.9	-13.0	-45.9	
5197.50	-18.5	Н	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 17	747.5								
3495.00	-19.9	V	3.0	36.0	1.0	-54.9	-13.0	-41.9	
5242.50	-19.5	V	3.0	35.4	1.0	-53.9	-13.0	-40.9	
6990.00	-18.3	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
3495.00	-11.9	Н	3.0	36.0	1.0	-46.9	-13.0	-33.9	
5242.50	-18.9	Н	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6990.00	-16.9	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth

Band
LTE4
10MHz

16QAM

SG reading Ant. Pol. Distance Filter EIRP Limit Delta Notes Preamp MHz (dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) Low Ch, 1715 -37.1 3430.00 -15.0 3.0 36.1 1.0 -50.1 -13.0 -50.8 5145.00 -18.7 3.0 35.4 1.0 -53.1 -13.0 -40.1 -47.4 6860.00 -18.7 3.0 35.7 1.0 -53.3 -13.0 -40.3 -64.5 3430.00 3.0 36.1 -51.0 -48.1 -16.0 Н 1.0 -13.0 -38.0 5145.00 Н 3.0 35.4 -52.5 -13.0 -39.5 -54.6 -18.1 1.0 6860.00 3.0 Н 35.7 -51.5 -38.5 -63.9 -16.8 1.0 -13.0Mid Ch, 1732.5 3465.00 -18.8 3.0 36.0 1.0 -53.8 -13.0 -40.8 -44.5 5197.50 -18.8 V 3.0 35.4 1.0 -53.2 -13.0 -40.2 -48.7 6930.00 -18.1 V 3.0 35.7 1.0 -52.7 -13.0-39.7 -64.9 3465.00 -23.1 Н 3.0 36.0 1.0 -58.1 -13.0 -45.1 -39.0 5197.50 -18.6 Н 3.0 35.4 1.0 -53.0 -13.0 -40.0 -52.4 6930.00 Н 3.0 35.7 -51.3 -38.3 -16.6 1.0 -13.0 High Ch, 1750 3500.00 -9.2 3.0 36.0 1.0 -44.2 -13.0 -31.2 -42.6 5250.00 -54.1 -19.7 3.0 35.4 -46.6 1.0 -13.041.1 3.0 -52.7 7000.00 -18.0 35.7 -13.0 -39.7 -64.5 1.0 3500.00 -11.3 Н 3.0 36.0 1.0 -46.3 -13.0 -33.3 -44.05250.00 -18.9 Н 3.0 35.4 1.0 -53.3 -13.0 -40.3 -51.7 7000.00 -16.9 Н 3.0 35.7 1.0 -51.6 -13.0 -38.6 -64.5

DATE: APRIL 20, 2015

FCC ID: ZNFLS991

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth

Band
LTE4
10MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	715								
3430.00	-16.1	V	3.0	36.1	1.0	-51.1	-13.0	-38.1	-47.2
5145.00	-17.7	V	3.0	35.4	1.0	-52.2	-13.0	-39.2	-47.9
6860.00	-18.4	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	-64.2
3430.00	-17.5	Н	3.0	36.1	1.0	-52.6	-13.0	-39.6	-44.2
5145.00	-17.7	Н	3.0	35.4	1.0	-52.1	-13.0	-39.1	-54.1
6860.00	-16.9	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	-64.7
Mid Ch, 17	32.5								
3465.00	-19.5	V	3.0	36.0	1.0	-54.5	-13.0	-41.5	-43.5
5197.50	-18.6	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	-46.7
6930.00	-18.5	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	-64.2
3465.00	-23.6	Н	3.0	36.0	1.0	-58.6	-13.0	-45.6	-40.3
5197.50	-18.3	Н	3.0	35.4	1.0	-52.7	-13.0	-39.7	-53.2
6930.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	-64.8
High Ch, 17	750								
3500.00	-10.0	V	3.0	36.0	1.0	-45.0	-13.0	-32.0	-44.2
5250.00	-19.7	V	3.0	35.4	1.0	-54.1	-13.0	-41.1	-47.1
7000.00	-18.5	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	-64.3
3500.00	-12.1	Н	3.0	36.0	1.0	-47.1	-13.0	-34.1	-37.6
5250.00	-18.8	Н	3.0	35.4	1.0	-53.3	-13.0	-40.3	-49.2
7000.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	-64.6

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

Test Engineer: 3/15/2015
O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth

Band LTE4 5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	712.5								
3425.00	-16.2	V	3.0	36.1	1.0	-51.3	-13.0	-38.3	
5137.50	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
6850.00	-18.3	V	3.0	35.7	1.0	-53.0	-13.0	-40.0	
3425.00	-19.4	Н	3.0	36.1	1.0	-54.5	-13.0	-41.5	
5137.50	-18.1	Н	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6850.00	-16.6	Н	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 17	32.5								
3465.00	-20.0	V	3.0	36.0	1.0	-55.1	-13.0	-42.1	
5197.50	-17.9	V	3.0	35.4	1.0	-52.4	-13.0	-39.4	
6930.00	-18.5	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
3465.00	-23.7	Н	3.0	36.0	1.0	-58.7	-13.0	-45.7	
5197.50	-18.7	Н	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1	752.5								
3505.00	-15.1	V	3.0	36.0	1.0	-50.1	-13.0	-37.1	
5257.50	-19.1	V	3.0	35.4	1.0	-53.6	-13.0	-40.6	
7010.00	-18.8	V	3.0	35.7	1.0	-53.5	-13.0	-40.5	
3505.00	-17.2	Н	3.0	36.0	1.0	-52.2	-13.0	-39.2	
5257.50	-19.3	Н	3.0	35.4	1.0	-53.7	-13.0	-40.7	
7010.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
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Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth

Band LTE4

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, 17	12.5								
3425.00	-16.1	V	3.0	36.1	1.0	-51.1	-13.0	-38.1	
5137.50	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
6850.00	-18.5	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	
3425.00	-19.3	Н	3.0	36.1	1.0	-54.4	-13.0	-41.4	
5137.50	-18.4	Н	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6850.00	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 17	32.5								
3465.00	-21.2	V	3.0	36.0	1.0	-56.3	-13.0	-43.3	
5197.50	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6930.00	-18.6	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	
3465.00	-23.6	Н	3.0	36.0	1.0	-58.7	-13.0	-45.7	
5197.50	-18.0	Н	3.0	35.4	1.0	-52.4	-13.0	-39.4	
6930.00	-16.7	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
High Ch, 1	752.5								
3505.00	-15.8	V	3.0	36.0	1.0	-50.8	-13.0	-37.8	
5257.50	-19.1	V	3.0	35.4	1.0	-53.5	-13.0	-40.5	
7010.00	-18.7	V	3.0	35.7	1.0	-53.4	-13.0	-40.4	
3505.00	-18.1	Н	3.0	36.0	1.0	-53.1	-13.0	-40.1	
5257.50	-19.3	Н	3.0	35.4	1.0	-53.7	-13.0	-40.7	
7010.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15/20286
Date: 3/15/2015
Test Engineer: O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth

Band LTE4 3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	11.5								
3423.00	-13.9	V	3.0	36.1	1.0	-48.9	-13.0	-35.9	
5134.50	-18.8	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6846.00	-18.6	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	
3423.00	-24.1	Н	3.0	36.1	1.0	-59.1	-13.0	-46.1	
5134.50	-18.1	Н	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6846.00	-17.0	Н	3.0	35.7	1.0	-51.7	-13.0	-38.7	
Mid Ch, 173	32.5								
3465.00	-21.9	V	3.0	36.0	1.0	-56.9	-13.0	-43.9	
5197.50	-18.8	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-17.9	V	3.0	35.7	1.0	-52.6	-13.0	-39.6	
3465.00	-23.2	Н	3.0	36.0	1.0	-58.3	-13.0	-45.3	
5197.50	-18.4	Н	3.0	35.4	1.0	-52.8	-13.0	-39.8	
6930.00	-17.2	Н	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 17	53.5			l					
3507.00	-17.4	V	3.0	36.0	1.0	-52.4	-13.0	-39.4	
5260.50	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
7014.00	-18.5	V	3.0	35.7	1.0	-53.2	-13.0	-40.2	
3507.00	-15.5	Н	3.0	36.0	1.0	-50.5	-13.0	-37.5	
5260.50	-17.3	Н	3.0	35.4	1.0	-51.8	-13.0	-38.8	
7014.00	-16.7	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15120286
Date: 3/15/2015
Test Engineer: O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 3MHz Bandwidth

Band LTE4

3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	711.5								
3423.00	-14.8	V	3.0	36.1	1.0	-49.8	-13.0	-36.8	
5134.50	-18.6	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
6846.00	-18.4	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
3423.00	-24.2	Н	3.0	36.1	1.0	-59.3	-13.0	-46.3	
5134.50	-18.2	Н	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6846.00	-17.0	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 17	32.5								
3465.00	-22.1	V	3.0	36.0	1.0	-57.1	-13.0	-44.1	
5197.50	-18.3	V	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6930.00	-18.4	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
3465.00	-23.1	Н	3.0	36.0	1.0	-58.1	-13.0	-45.1	
5197.50	-18.5	Н	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1	753.5								
3507.00	-17.5	V	3.0	36.0	1.0	-52.5	-13.0	-39.5	
5260.50	-17.9	V	3.0	35.4	1.0	-52.4	-13.0	-39.4	
7014.00	-18.7	V	3.0	35.7	1.0	-53.4	-13.0	-40.4	
3507.00	-16.1	Н	3.0	36.0	1.0	-51.1	-13.0	-38.1	
5260.50	-18.8	Н	3.0	35.4	1.0	-53.2	-13.0	-40.2	
7014.00	-16.9	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

Band
LTE4
1.4MHz

16QAM

Preamp SG reading Ant. Pol. Distance Filter EIRP Limit Delta Notes MHz (dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) Low Ch, 1710.7 3421.40 3.0 36.1 1.0 53.4 -13.0 40.4 5132.10 -18.7 3.0 35.4 1.0 -53.1 -13.0 40.1 6842.80 -18.5 3.0 35.7 1.0 -53.1 -13.0 40.1 3421.40 -54.0 -18.9 Н 3.0 36.1 1.0 -13.0 41.0 5132.10 Н 3.0 35.4 -51.8 -13.0 -38.8 -17.41.0 6842.80 Н -13.0 -17.2 3.0 35.7 1.0 -51.8 -38.8 Mid Ch, 1732.5 3465.00 -18.1 V 3.0 36.0 1.0 -53.2 -13.0 -40.2 5197.50 -19.3 V 3.0 35.4 1.0 -53.8 -13.0 40.8 6930.00 -18.2 V 3.0 35.7 1.0 -52.9 -13.0 -39.9 3465.00 -21.9 Н 3.0 36.0 1.0 -56.9 -13.0 43.9 5197.50 -18.5 3.0 35.4 1.0 -52.9 -13.0 -39.9 6930.00 35.7 -51.1 -16.4 Н 3.0 1.0 -13.0 -38.1 High Ch, 1754.3 3508.60 -12.5 3.0 36.0 1.0 -47.5 -13.0 -34.5 5262.90 V 35.4 -38.1 -16.63.0 1.0 -51.1 -13.0 7017.20 V 3.0 35.7 -50.9 -13.0 -37.9 -16.2 1.0 3508.60 -14.0Н 3.0 36.0 1.0 -49.0 -13.0 -36.0 5262.90 -18.9 Н 3.0 35.4 1.0 -53.3 -13.0 40.3 7017.20 -16.7 Н 3.0 35.7 1.0 -51.4 -13.0 -38.4

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth

Band LTE4

1.4MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 17	710.7								
3421.40	-18.7	V	3.0	36.1	1.0	-53.8	-13.0	-40.8	
5132.10	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6842.80	-17.9	V	3.0	35.7	1.0	-52.6	-13.0	-39.6	
3421.40	-18.7	Н	3.0	36.1	1.0	-53.8	-13.0	-40.8	
5132.10	-17.8	Н	3.0	35.4	1.0	-52.2	-13.0	-39.2	
6842.80	-16.8	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 17	32.5								
3465.00	-18.2	V	3.0	36.0	1.0	-53.3	-13.0	-40.3	
5197.50	-18.7	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-18.3	V	3.0	35.7	1.0	-53.0	-13.0	-40.0	
3465.00	-20.5	Н	3.0	36.0	1.0	-55.6	-13.0	-42.6	
5197.50	-18.4	Н	3.0	35.4	1.0	-52.8	-13.0	-39.8	
6930.00	-17.0	Н	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 17	754.3								
3508.60	-13.4	V	3.0	36.0	1.0	-48.4	-13.0	-35.4	
5262.90	-16.3	V	3.0	35.4	1.0	-50.8	-13.0	-37.8	
7017.20	-15.7	V	3.0	35.7	1.0	-50.4	-13.0	-37.4	
3508.60	-14.6	Н	3.0	36.0	1.0	-49.6	-13.0	-36.6	
5262.90	-18.8	Н	3.0	35.4	1.0	-53.3	-13.0	-40.3	
7017.20	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	

DATE: APRIL 20, 2015 FCC ID: ZNFLS991 REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015
MODEL NUMBER: LG-LS991, LS991, LGLS991 FCC ID: ZNFLS991

LTE Band 5

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth

Band LTE5

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	9								
1658.00	-27.3	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2487.00	-22.7	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3316.00	-21.5	V	3.0	36.2	1.0	-56.7	-13.0	-43.7	
1658.00	-27.9	Н	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2487.00	-19.3	Н	3.0	36.4	1.0	-54.8	-13.0	-41.8	
3316.00	-22.4	Н	3.0	36.2	1.0	-57.6	-13.0	-44.6	
Mid Ch, 830	6.5								
1673.00	-25.8	V	3.0	37.0	1.0	-61.8	-13.0	-48.8	
2509.50	-15.5	V	3.0	36.4	1.0	-50.9	-13.0	-37.9	
3346.00	-21.6	V	3.0	36.1	1.0	-56.7	-13.0	-43.7	
1673.00	-28.0	Н	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2509.50	-21.2	Н	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3346.00	-21.7	Н	3.0	36.1	1.0	-56.8	-13.0	-43.8	
High Ch, 84	14								
1688.00	-25.7	V	3.0	37.0	1.0	-61.7	-13.0	-48.7	
2532.00	-17.4	V	3.0	36.4	1.0	-52.8	-13.0	-39.8	
3376.00	-20.6	V	3.0	36.1	1.0	-55.7	-13.0	-42.7	
1688.00	-26.8	Н	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2532.00	-20.7	Н	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3376.00	-21.7	Н	3.0	36.1	1.0	-56.8	-13.0	-43.8	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth

Band LTE5

10MHz

t	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	9								
1658.00	-26.4	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2487.00	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3316.00	-21.2	V	3.0	36.2	1.0	-56.4	-13.0	-43.4	
1658.00	-28.1	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2487.00	-18.4	Н	3.0	36.4	1.0	-53.9	-13.0	-40.9	
3316.00	-21.8	Н	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 836	6.5								
1673.00	-25.4	V	3.0	37.0	1.0	-61.4	-13.0	-48.4	
2509.50	-14.8	V	3.0	36.4	1.0	-50.2	-13.0	-37.2	
3346.00	-21.4	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
1673.00	-27.7	Н	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2509.50	-18.9	Н	3.0	36.4	1.0	-54.3	-13.0	-41.3	
3346.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 84	14								
1688.00	-23.0	V	3.0	37.0	1.0	-59.0	-13.0	-46.0	
2532.00	-16.1	V	3.0	36.4	1.0	-51.5	-13.0	-38.5	
3376.00	-20.9	V	3.0	36.1	1.0	-56.0	-13.0	-43.0	
1688.00	-27.5	Н	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2532.00	-19.5	Н	3.0	36.4	1.0	-54.9	-13.0	-41.9	
3376.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth

Band LTE5

5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	6.5								
1653.00	-25.3	V	3.0	37.0	1.0	-61.3	-13.0	-48.3	
2479.50	-18.5	V	3.0	36.4	1.0	-54.0	-13.0	-41.0	
3306.00	-21.8	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1653.00	-28.0	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2479.50	-16.3	Н	3.0	36.4	1.0	-51.7	-13.0	-38.7	
3306.00	-22.2	Н	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 836	6.5								
1673.00	-26.2	V	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2509.50	-22.8	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3346.00	-21.7	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1673.00	-27.7	Н	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2509.50	-16.2	Н	3.0	36.4	1.0	-51.6	-13.0	-38.6	
3346.00	-22.2	Н	3.0	36.1	1.0	-57.3	-13.0	-44.3	
High Ch, 84	16.5								
1693.00	-27.2	V	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2539.50	-22.3	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3386.00	-21.8	V	3.0	36.1	1.0	-56.9	-13.0	-43.9	
1693.00	-27.1	Н	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2539.50	-17.7	Н	3.0	36.4	1.0	-53.1	-13.0	-40.1	
3386.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth

Band LTE5

5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 8	26.5								
1653.00	-24.0	V	3.0	37.0	1.0	-60.0	-13.0	-47.0	
2479.50	-13.9	V	3.0	36.4	1.0	-49.4	-13.0	-36.4	
3306.00	-22.0	V	3.0	36.2	1.0	-57.1	-13.0	-44.1	
1653.00	-27.7	Н	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2479.50	-14.5	Н	3.0	36.4	1.0	-49.9	-13.0	-36.9	
3306.00	-21.8	Н	3.0	36.2	1.0	-56.9	-13.0	-43.9	
Mid Ch, 83	6.5								
1673.00	-25.9	V	3.0	37.0	1.0	-61.9	-13.0	-48.9	
2509.50	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3346.00	-21.9	V	3.0	36.1	1.0	-57.0	-13.0	-44.0	
1673.00	-28.0	Н	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2509.50	-14.2	Н	3.0	36.4	1.0	-49.6	-13.0	-36.6	
3346.00	-21.8	Н	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 8	46.5								
1693.00	-27.5	V	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2539.50	-22.6	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3386.00	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
1693.00	-27.4	Н	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2539.50	-16.6	Н	3.0	36.4	1.0	-52.0	-13.0	-39.0	
3386.00	-21.8	Н	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 #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth

Band LTE5 3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	25.5								
1651.00	-26.7	V	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2476.50	-23.2	V	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3302.00	-22.1	V	3.0	36.2	1.0	-57.3	-13.0	-44.3	
1651.00	-28.2	Н	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2476.50	-17.3	Н	3.0	36.4	1.0	-52.7	-13.0	-39.7	
3302.00	-22.1	Н	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 83	6.5								
1673.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2509.50	-19.3	V	3.0	36.4	1.0	-54.7	-13.0	-41.7	
3346.00	-21.7	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1673.00	-29.5	Н	3.0	37.0	1.0	-65.5	-13.0	-52.5	
2509.50	-23.4	Н	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3346.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 8	47.5								
1695.00	-25.6	V	3.0	37.0	1.0	-61.6	-13.0	-48.6	
2542.50	-22.3	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3390.00	-21.6	V	3.0	36.1	1.0	-56.7	-13.0	-43.7	
1695.00	-27.0	Н	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2542.50	-22.8	Н	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3390.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	

Filter

(dB)

1.0

EIRP

(dBm)

-56.4

-13.0

-43.4

Limit

(dBm)

Delta

(dB)

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

SG reading

(dBm)

-21.3

MHz

3390.00

Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

Ant. Pol.

(H/V)

Н

Distance

(m)

3.0

Band LTE5 Low Ch, 825.5 -24.9 -13.0 -48.0 1651.00 3.0 37.0 1.0 -61.0 2476.50 -15.0 3.0 36.4 1.0 -50.4 -13.0 -37.4 3302.00 -21.7 3.0 1.0 -56.9 -13.0 -43.9 1651.00 3.0 37.0 -62.7 -49.7 -26.6 Н 1.0 -13.0 2476.50 Н 3.0 36.4 -49.8 -13.0 -36.8 -14.4 1.0 3302.00 -22.5 3.0 Н 36.2 -57.7 -44.7 1.0 -13.0 Mid Ch, 836.5 1673.00 -26.4 3.0 37.0 1.0 -62.4 -13.0 -49.4 2509.50 -17.6 V 3.0 36.4 1.0 -53.0 -13.0 -40.0 3346.00 -21.9 V 3.0 36.1 1.0 -57.0 -13.0-44.0 1673.00 -29.2 Н 3.0 37.0 1.0 -65.2 -13.0 -52.2 2509.50 -21.9 Н 3.0 36.4 1.0 -57.3 -13.0 -44.3 3346.00 Н 3.0 36.1 -55.9 -42.9 -20.8 1.0 -13.0 High Ch, 847.5 1695.00 -23.8 3.0 37.0 1.0 -59.8 -13.0 -46.8 2542.50 -22.2 3.0 36.4 -57.7 -44.7 1.0 -13.03.0 3390.00 -21.3 36.1 -56.4 -13.0 -43.4 1.0 1695.00 -27.4 Н 3.0 37.0 1.0 -63.4 -13.0 -50.4 2542.50 -20.2 Н 3.0 36.4 1.0 -55.7 -13.0 -42.7

Preamp

(dB)

36.1

3MHz QPSK DATE: APRIL 20, 2015

Notes

FCC ID: ZNFLS991

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 5 Harmonics, 1.4MHz Bandwidth

Band LTE5

1.4MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	24.7								
1649.40	-26.7	V	3.0	37.1	1.0	-62.8	-13.0	-49.8	
2474.10	-4.5	V	3.0	36.4	1.0	-39.9	-13.0	-26.9	
3298.80	-21.0	V	3.0	36.2	1.0	-56.2	-13.0	-43.2	
1649.40	-27.5	Н	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2474.10	3.8	Н	3.0	36.4	1.0	-31.7	-13.0	-18.7	
3298.80	-21.9	Н	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 83	6.5								
1673.00	-27.8	V	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2509.50	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3346.00	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
1673.00	-27.9	Н	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2509.50	-17.5	Н	3.0	36.4	1.0	-52.9	-13.0	-39.9	
3346.00	-20.7	Н	3.0	36.1	1.0	-55.8	-13.0	-42.8	
High Ch, 84	48.3								
1696.60	-26.1	V	3.0	37.0	1.0	-62.1	-13.0	-49.1	
2544.90	-16.1	V	3.0	36.4	1.0	-51.5	-13.0	-38.5	
3393.20	-20.4	V	3.0	36.1	1.0	-55.4	-13.0	-42.4	
1696.60	-28.1	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2544.90	-17.9	Н	3.0	36.4	1.0	-53.3	-13.0	-40.3	
3393.20	-21.5	Н	3.0	36.1	1.0	-56.6	-13.0	-43.6	

Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics Project #: 15120286 Date: 4/3/2015 Test Engineer: R.Z

EUT/ AC Charger/ Headset Configuration:

Location: Chamber G

Mode: LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth

Band LTE5

1.4MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 82	4.7								
1649.40	-27.5	V	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2474.10	-14.8	V	3.0	36.4	1.0	-50.2	-13.0	-37.2	
3298.80	-22.1	V	3.0	36.2	1.0	-57.3	-13.0	-44.3	
1649.40	-26.0	Н	3.0	37.1	1.0	-62.1	-13.0	-49.1	
2474.10	5.9	Н	3.0	36.4	1.0	-29.6	-13.0	-16.6	
3298.80	-21.7	Н	3.0	36.2	1.0	-56.9	-13.0	-43.9	
Mid Ch, 836	6.5								
1673.00	-26.4	V	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2509.50	-12.7	V	3.0	36.4	1.0	-48.1	-13.0	-35.1	
3346.00	-20.0	V	3.0	36.1	1.0	-55.1	-13.0	-42.1	
1673.00	-27.6	Н	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2509.50	-0.6	Н	3.0	36.4	1.0	-36.0	-13.0	-23.0	
3346.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 84	18.3								
1696.60	-27.1	V	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2544.90	-15.1	V	3.0	36.4	1.0	-50.5	-13.0	-37.5	
3393.20	-21.8	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1696.60	-26.7	Н	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-5.6	Н	3.0	36.4	1.0	-41.0	-13.0	-28.0	
3393.20	-21.1	Н	3.0	36.1	1.0	-56.2	-13.0	-43.2	

REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015
MODEL NUMBER: LG-LS991, LS991, LGLS991 FCC ID: ZNFLS991

LTE Band 12

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth

Band LTE12

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	704								
1408.00	-18.9	V	3.0	37.4	1.0	-55.3	-13.0	-42.3	
2112.00	-15.5	V	3.0	36.6	1.0	-51.1	-13.0	-38.1	
2816.00	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
1408.00	-13.6	Н	3.0	37.4	1.0	-49.9	-13.0	-36.9	
2112.00	-16.5	Н	3.0	36.6	1.0	-52.1	-13.0	-39.1	
2816.00	-23.1	Н	3.0	36.4	1.0	-58.5	-13.0	-45.5	
Mid Ch,7	07.5								
1415.00	-18.4	V	3.0	37.3	1.0	-54.7	-13.0	-41.7	
2122.50	-17.2	V	3.0	36.6	1.0	-52.8	-13.0	-39.8	
2830.00	-22.9	V	3.0	36.4	1.0	-58.3	-13.0	-45.3	
1415.00	-14.1	Н	3.0	37.3	1.0	-50.5	-13.0	-37.5	
2122.50	-16.4	Н	3.0	36.6	1.0	-52.0	-13.0	-39.0	
2830.00	-4.1	Н	3.0	36.4	1.0	-39.4	-13.0	-26.4	
High Ch,	711								
1422.00	-15.3	V	3.0	37.3	1.0	-51.6	-13.0	-38.6	
2133.00	-16.6	V	3.0	36.6	1.0	-52.1	-13.0	-39.1	
2844.00	-22.5	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
1422.00	-12.7	Н	3.0	37.3	1.0	-49.0	-13.0	-36.0	
2133.00	-17.0	Н	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2844.00	-24.1	Н	3.0	36.4	1.0	-59.5	-13.0	-46.5	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth

Band LTE12

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	704								
1408.00	-19.1	V	3.0	37.4	1.0	-55.5	-13.0	-42.5	
2112.00	-14.9	V	3.0	36.6	1.0	-50.5	-13.0	-37.5	
2816.00	-17.7	V	3.0	36.4	1.0	-53.1	-13.0	-40.1	
1408.00	-14.5	Н	3.0	37.4	1.0	-50.8	-13.0	-37.8	
2112.00	-16.9	Н	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2816.00	-23.2	Н	3.0	36.4	1.0	-58.6	-13.0	-45.6	
Mid Ch,7	07.5								
1415.00	-17.4	V	3.0	37.3	1.0	-53.7	-13.0	-40.7	
2122.50	-14.5	V	3.0	36.6	1.0	-50.1	-13.0	-37.1	
2830.00	-13.3	V	3.0	36.4	1.0	-48.7	-13.0	-35.7	
1415.00	-13.4	Н	3.0	37.3	1.0	-49.8	-13.0	-36.8	
2122.50	-15.9	Н	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2830.00	-23.9	Н	3.0	36.4	1.0	-59.2	-13.0	-46.2	
High Ch,	711								
1422.00	-15.5	V	3.0	37.3	1.0	-51.8	-13.0	-38.8	
2133.00	-15.1	V	3.0	36.6	1.0	-50.7	-13.0	-37.7	
2844.00	-22.8	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
1422.00	-11.0	Н	3.0	37.3	1.0	-47.3	-13.0	-34.3	
2133.00	-16.0	Н	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2844.00	-24.0	Н	3.0	36.4	1.0	-59.4	-13.0	-46.4	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth

Band LTE12

5MHz 16QA

Μ

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	701.50								
1403.00	-26.2	V	3.0	37.4	1.0	-62.6	-13.0	-49.6	
2104.50	-16.2	V	3.0	36.6	1.0	-51.8	-13.0	-38.8	
2806.00	-22.7	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
1403.00	-30.3	Н	3.0	37.4	1.0	-66.6	-13.0	-53.6	
2104.50	-15.9	Н	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2806.00	-24.3	Н	3.0	36.4	1.0	-59.7	-13.0	-46.7	
Mid Ch,	707.50								
1415.00	-21.1	V	3.0	37.3	1.0	-57.5	-13.0	-44.5	
2122.50	-13.5	V	3.0	36.6	1.0	-49.1	-13.0	-36.1	
2830.00	-22.1	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
1415.00	-16.3	Н	3.0	37.3	1.0	-52.7	-13.0	-39.7	
2122.50	-11.9	Н	3.0	36.6	1.0	-47.4	-13.0	-34.4	
2830.00	-22.3	Н	3.0	36.4	1.0	-57.6	-13.0	-44.6	
High Ch,	713.50								
1427.00	-26.8	V	3.0	37.3	1.0	-63.1	-13.0	-50.1	
2140.50	-20.8	V	3.0	36.6	1.0	-56.3	-13.0	-43.3	
2854.00	-22.9	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
1427.00	-26.8	Н	3.0	37.3	1.0	-63.1	-13.0	-50.1	
2140.50	-17.0	Н	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2854.00	-24.0	Н	3.0	36.4	1.0	-59.4	-13.0	-46.4	

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth

Band LTE12

5MHz QPSK

f	SG reading		Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	701.50								
1403.00	-20.5	V	3.0	37.4	1.0	-56.9	-13.0	-43.9	
2104.50	-15.8	V	3.0	36.6	1.0	-51.4	-13.0	-38.4	
2806.00	-21.9	V	3.0	36.4	1.0	-57.3	-13.0	-44.3	
1403.00	-14.4	Н	3.0	37.4	1.0	-50.7	-13.0	-37.7	
2104.50	-15.3	Н	3.0	36.6	1.0	-50.9	-13.0	-37.9	
2806.00	-24.5	Н	3.0	36.4	1.0	-59.9	-13.0	-46.9	
Mid Ch,	707.50								
1415.00	-19.0	V	3.0	37.3	1.0	-55.3	-13.0	-42.3	
2122.50	-10.0	V	3.0	36.6	1.0	-45.6	-13.0	-32.6	
2830.00	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
1415.00	-14.9	Н	3.0	37.3	1.0	-51.3	-13.0	-38.3	
2122.50	-12.9	Н	3.0	36.6	1.0	-48.5	-13.0	-35.5	
2830.00	-22.8	Н	3.0	36.4	1.0	-58.1	-13.0	-45.1	
High Ch,	713.50								
1427.00	-22.8	V	3.0	37.3	1.0	-59.1	-13.0	-46.1	
2140.50	-20.6	V	3.0	36.6	1.0	-56.1	-13.0	-43.1	
2854.00	-22.8	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
1427.00	-22.9	Н	3.0	37.3	1.0	-59.2	-13.0	-46.2	
2140.50	-19.9	Н	3.0	36.6	1.0	-55.4	-13.0	-42.4	
2854.00	-24.0	Н	3.0	36.4	1.0	-59.4	-13.0	-46.4	
								İ	

DATE: APRIL 20, 2015

FCC ID: ZNFLS991

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT, AC Adapter /HS

Location: Chamber G

Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth

Band LTE12

3MHz 16QA

Μ

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	700.5								
1401.00	-28.5	V	3.0	37.4	1.0	-64.8	-13.0	-51.8	
2101.50	-17.0	V	3.0	36.6	1.0	-52.6	-13.0	-39.6	
2802.00	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
1401.00	-19.9	Н	3.0	37.4	1.0	-56.2	-13.0	-43.2	
2101.50	-22.6	Н	3.0	36.6	1.0	-58.2	-13.0	-45.2	
2802.00	-23.5	Н	3.0	36.4	1.0	-58.9	-13.0	-45.9	
Mid Ch, 7	707.50								
1415.00	-20.3	V	3.0	37.3	1.0	-56.6	-13.0	-43.6	
2122.00	-10.0	V	3.0	36.6	1.0	-45.6	-13.0	-32.6	
2830.00	-3.3	V	3.0	36.4	1.0	-38.7	-13.0	-25.7	
1415.00	-15.8	Н	3.0	37.3	1.0	-52.1	-13.0	-39.1	
2122.00	-12.8	Н	3.0	36.6	1.0	-48.4	-13.0	-35.4	
2830.00	-22.4	Н	3.0	36.4	1.0	-57.7	-13.0	-44.7	
High Ch,	714.5								
1429.00	-22.8	V	3.0	37.3	1.0	-59.1	-13.0	-46.1	
2143.50	-17.4	V	3.0	36.6	1.0	-52.9	-13.0	-39.9	
2858.00	-22.1	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
1429.00	-21.2	Н	3.0	37.3	1.0	-57.5	-13.0	-44.5	
2143.50	-16.6	Н	3.0	36.6	1.0	-52.1	-13.0	-39.1	
2858.00	-22.5	Н	3.0	36.4	1.0	-57.9	-13.0	-44.9	

DATE: APRIL 20, 2015

FCC ID: ZNFLS991

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth

Band LTE12

3MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	700.5								_
1401.00	-27.9	V	3.0	37.4	1.0	-64.3	-13.0	-51.3	
2101.50	-14.0	V	3.0	36.6	1.0	-49.6	-13.0	-36.6	
2802.00	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
1401.00	-21.5	Н	3.0	37.4	1.0	-57.9	-13.0	-44.9	
2101.50	-21.5	Н	3.0	36.6	1.0	-57.1	-13.0	-44.1	
2802.00	-21.0	Н	3.0	36.4	1.0	-56.4	-13.0	-43.4	
Mid Ch,	707.50								
1415.00	-19.9	V	3.0	37.3	1.0	-56.2	-13.0	-43.2	
2122.00	-12.4	V	3.0	36.6	1.0	-48.0	-13.0	-35.0	
2830.00	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
1415.00	-14.4	Н	3.0	37.3	1.0	-50.8	-13.0	-37.8	
2122.00	-12.4	Н	3.0	36.6	1.0	-48.0	-13.0	-35.0	
2830.00	-20.8	Н	3.0	36.4	1.0	-56.1	-13.0	-43.1	
High Ch,	714.5								
1429.00	-23.3	V	3.0	37.3	1.0	-59.6	-13.0	-46.6	
2143.50	-17.9	V	3.0	36.6	1.0	-53.4	-13.0	-40.4	
2858.00	-22.1	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
1429.00	-19.8	Н	3.0	37.3	1.0	-56.1	-13.0	-43.1	
2143.50	-17.8	Н	3.0	36.6	1.0	-53.3	-13.0	-40.3	
2858.00	-22.5	Н	3.0	36.4	1.0	-57.9	-13.0	-44.9	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth

Band
LTE12
1.4MH
z

16QA M

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	699.7								
1399.40	-20.9	V	3.0	37.4	1.0	-57.3	-13.0	-44.3	
2099.10	-16.9	V	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2798.80	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
1399.40	-15.3	Н	3.0	37.4	1.0	-51.6	-13.0	-38.6	
2099.10	-16.1	Н	3.0	36.6	1.0	-51.7	-13.0	-38.7	
2798.80	-22.6	Н	3.0	36.4	1.0	-58.0	-13.0	-45.0	
Mid Ch,	707.50				i				
1415.00	-20.1	V	3.0	37.3	1.0	-56.4	-13.0	-43.4	
2122.00	-9.0	V	3.0	36.6	1.0	-44.6	-13.0	-31.6	
2830.00	-22.2	V	3.0	36.4	1.0	-57.6	-13.0	-44.6	
1415.00	-14.5	Н	3.0	37.3	1.0	-50.9	-13.0	-37.9	
2122.00	-10.4	Н	3.0	36.6	1.0	-46.0	-13.0	-33.0	
2830.00	-23.0	Н	3.0	36.4	1.0	-58.3	-13.0	-45.3	
High Ch,	715.3				į	Ì			
1430.60	-19.6	V	3.0	37.3	1.0	-55.9	-13.0	-42.9	
2145.90	-17.1	V	3.0	36.6	1.0	-52.6	-13.0	-39.6	
2861.20	-22.2	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
1430.60	-16.7	Н	3.0	37.3	1.0	-53.0	-13.0	-40.0	
2145.90	-15.3	Н	3.0	36.6	1.0	-50.8	-13.0	-37.8	
2861.20	-20.9	Н	3.0	36.4	1.0	-56.3	-13.0	-43.3	
	,								

DATE: APRIL 20, 2015

FCC ID: ZNFLS991

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 4/2/2015

 Test Engineer:
 R.Z

Configuration: EUT , AC Adapter /HS

Location: Chamber G

Mode: LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth

Band LTE12

1.4MH z

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch,	699.7								
1399.40	-18.8	V	3.0	37.4	1.0	-55.2	-13.0	-42.2	
2099.10	-14.5	V	3.0	36.6	1.0	-50.1	-13.0	-37.1	
2798.80	-22.1	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
1399.40	-13.6	Н	3.0	37.4	1.0	-49.9	-13.0	-36.9	
2099.10	-15.6	Н	3.0	36.6	1.0	-51.2	-13.0	-38.2	
2798.80	-16.9	Н	3.0	36.4	1.0	-52.3	-13.0	-39.3	
Mid Ch,	707.50								
1415.00	-18.9	V	3.0	37.3	1.0	-55.2	-13.0	-42.2	
2122.00	-11.4	V	3.0	36.6	1.0	-47.0	-13.0	-34.0	
2830.00	-23.0	V	3.0	36.4	1.0	-58.4	-13.0	-45.4	
1415.00	-14.3	Н	3.0	37.3	1.0	-50.7	-13.0	-37.7	
2122.00	-9.6	Н	3.0	36.6	1.0	-45.2	-13.0	-32.2	
2830.00	-22.4	Н	3.0	36.4	1.0	-57.7	-13.0	-44.7	
High Ch	, 715. 3								
1430.60	-20.7	V	3.0	37.3	1.0	-57.0	-13.0	-44.0	
2145.90	-18.8	V	3.0	36.6	1.0	-54.4	-13.0	-41.4	
2861.20	-21.6	V	3.0	36.4	1.0	-56.9	-13.0	-43.9	
1430.60	-15.9	Н	3.0	37.3	1.0	-52.2	-13.0	-39.2	
2145.90	-16.4	Н	3.0	36.6	1.0	-51.9	-13.0	-38.9	
2861.20	-22.7	Н	3.0	36.4	1.0	-58.1	-13.0	-45.1	

DATE: APRIL 20, 2015 FCC ID: ZNFLS991 REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015
MODEL NUMBER: LG-LS991, LS991, LGLS991 FCC ID: ZNFLS991

LTE Band 25

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

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 25 Harmonics, 20MHz Bandwidth

Band

LTE25 20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	360								
3720.00	-18.7	V	3.0	35.8	1.0	-53.6	-13.0	-40.6	
5580.00	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7440.00	-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
3720.00	-20.6	Н	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5580.00	-15.4	Н	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7440.00	-16.5	Н	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 18	82.5								
3765.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5647.50	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7530.00	-13.0	V	3.0	35.7	1.0	-47.7	-13.0	-34.7	
3765.00	-21.1	Н	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5647.50	-18.3	Н	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7530.00	-15.8	Н	3.0	35.7	1.0	-50.6	-13.0	-37.6	
High Ch, 19	905								
3810.00	-20.0	V	3.0	35.8	1.0	-54.7	-13.0	-41.7	
5715.00	-17.8	V	3.0	35.5	1.0	-52.3	-13.0	-39.3	
7620.00	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3810.00	-20.4	Н	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5715.00	-18.3	Н	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7620.00	-14.8	Н	3.0	35.8	1.0	-49.6	-13.0	-36.6	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 25 Harmonics, 20MHz Bandwidth

Band LTE25

20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	860								
3720.00	-18.3	V	3.0	35.8	1.0	-53.2	-13.0	-40.2	
5580.00	-13.7	V	3.0	35.5	1.0	-48.2	-13.0	-35.2	
7440.00	-14.5	V	3.0	35.7	1.0	-49.2	-13.0	-36.2	
3720.00	-20.7	Н	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5580.00	-16.2	Н	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7440.00	-16.5	Н	3.0	35.7	1.0	-51.3	-13.0	-38.3	
Mid Ch, 18	82.5								
3765.00	-20.2	V	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5647.50	-14.9	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7530.00	-12.8	V	3.0	35.7	1.0	-47.6	-13.0	-34.6	
3765.00	-20.7	Н	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5647.50	-18.3	Н	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7530.00	-15.9	Н	3.0	35.7	1.0	-50.7	-13.0	-37.7	
High Ch, 1									
3810.00	-20.2	V	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5715.00	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7620.00	-14.0	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
3810.00	-20.0	Н	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5715.00	-17.5	Н	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7620.00	-15.6	Н	3.0	35.8	1.0	-50.3	-13.0	-37.3	
1									

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_16QAM Band 25 Harmonics, 15MHz Bandwidth

Band LTE25

15MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 1	857.5								
3715.00	-18.5	V	3.0	35.8	1.0	-53.3	-13.0	-40.3	
5572.50	-8.2	V	3.0	35.5	1.0	-42.6	-13.0	-29.6	
7430.00	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3715.00	-20.7	Н	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5572.50	-15.8	Н	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7430.00	-16.6	Н	3.0	35.7	1.0	-51.3	-13.0	-38.3	
Mid Ch, 18	82.5								
3815.00	-18.2	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5722.50	-17.7	V	3.0	35.5	1.0	-52.2	-13.0	-39.2	
7630.00	-12.5	V	3.0	35.7	1.0	-47.3	-13.0	-34.3	
3815.00	-20.6	Н	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5722.50	-18.2	Н	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7630.00	-14.2	Н	3.0	35.7	1.0	-49.0	-13.0	-36.0	
High Ch, 1	907.5								
3815.00	-20.5	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5722.50	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7630.00	-13.3	V	3.0	35.8	1.0	-48.1	-13.0	-35.1	
3815.00	-20.5	Н	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5722.50	-17.9	Н	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7630.00	-15.6	Н	3.0	35.8	1.0	-50.4	-13.0	-37.4	

FORM NO: CCSUP4701I

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/15/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber A

Mode: LTE_QPSK Band 25 Harmonics, 15MHz Bandwidth

Band LTE25

15MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	357.5								
3715.00	-19.4	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5572.50	-9.0	V	3.0	35.5	1.0	-43.5	-13.0	-30.5	
7430.00	-15.1	V	3.0	35.7	1.0	-49.9	-13.0	-36.9	
3715.00	-21.1	Н	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5572.50	-15.9	Н	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7430.00	-16.3	Н	3.0	35.7	1.0	-51.0	-13.0	-38.0	
Mid Ch, 18	82.5								
3765.00	-19.5	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5647.50	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7530.00	-12.7	V	3.0	35.7	1.0	-47.5	-13.0	-34.5	
3765.00	-20.2	Н	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5647.50	-18.6	Н	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7530.00	-14.9	Н	3.0	35.7	1.0	-49.6	-13.0	-36.6	
High Ch, 1	907.5								
3815.00	-20.0	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5722.50	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7630.00	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3815.00	-20.2	Н	3.0	35.8	1.0	-54.9	-13.0	-41.9	
5722.50	-17.5	Н	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7630.00	-15.9	Н	3.0	35.8	1.0	-50.6	-13.0	-37.6	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 25 Harmonics, 10MHz Bandwidth

Band LTE25

10MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	355								
3710.00	-19.0	V	3.0	35.9	1.0	-53.8	-13.0	-40.8	
5565.00	-21.7	V	3.0	35.5	1.0	-56.1	-13.0	-43.1	
7420.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
3710.00	-20.9	Н	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5565.00	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7420.00	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	82.5								
3765.00	-22.4	V	3.0	35.8	1.0	-57.2	-13.0	-44.2	
5647.50	-19.1	V	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7530.00	-16.9	V	3.0	35.7	1.0	-51.7	-13.0	-38.7	
3765.00	-24.9	Н	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5647.50	-19.6	Н	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7530.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1	910								
3820.00	-23.2	V	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5730.00	-18.8	V	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7640.00	-17.2	V	3.0	35.8	1.0	-52.0	-13.0	-39.0	
3820.00	-23.7	Н	3.0	35.8	1.0	-58.5	-13.0	-45.5	
5730.00	-20.0	Н	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7640.00	-16.4	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

DATE: APRIL 20, 2015 FCC ID: ZNFLS991

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 25 Harmonics, 10MHz Bandwidth

Band LTE25

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	355								
3710.00	-17.4	V	3.0	35.9	1.0	-52.3	-13.0	-39.3	
5565.00	-21.2	V	3.0	35.5	1.0	-55.7	-13.0	-42.7	
7420.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3710.00	-19.9	Н	3.0	35.9	1.0	-54.7	-13.0	-41.7	
5565.00	-21.0	Н	3.0	35.5	1.0	-55.5	-13.0	-42.5	
7420.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 18	82.5								
3765.00	-22.3	V	3.0	35.8	1.0	-57.1	-13.0	-44.1	
5647.50	-19.1	V	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7530.00	-17.3	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
3765.00	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5647.50	-19.1	Н	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7530.00	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 19	910								
3820.00	-24.2	V	3.0	35.8	1.0	-59.0	-13.0	-46.0	
5730.00	-20.9	V	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7640.00	-14.5	V	3.0	35.8	1.0	-49.2	-13.0	-36.2	
3820.00	-23.6	Н	3.0	35.8	1.0	-58.4	-13.0	-45.4	
5730.00	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7640.00	-16.0	Н	3.0	35.8	1.0	-50.8	-13.0	-37.8	
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UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 25 Harmonics, 5MHz Bandwidth

Band LTE25

5MHz 16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	52.5								
3705.00	-25.2	V	3.0	35.9	1.0	-60.0	-13.0	-47.0	
5557.50	-10.5	V	3.0	35.5	1.0	-45.0	-13.0	-32.0	
7410.00	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
3705.00	-23.6	Н	3.0	35.9	1.0	-58.5	-13.0	-45.5	
5557.50	-14.0	Н	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7410.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 188	32.5								
3765.00	-24.1	V	3.0	35.8	1.0	-58.9	-13.0	-45.9	
5647.50	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7530.00	-17.5	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3765.00	-25.0	Н	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5647.50	-18.8	Н	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7530.00	-17.2	Н	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 19	12.5								
3825.00	-24.4	V	3.0	35.8	1.0	-59.1	-13.0	-46.1	
5737.50	-14.1	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7650.00	-15.2	V	3.0	35.8	1.0	-50.0	-13.0	-37.0	
3825.00	-24.8	Н	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5737.50	-19.4	Н	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7650.00	-16.3	Н	3.0	35.8	1.0	-51.1	-13.0	-38.1	

FCC ID: ZNFLS991

DATE: APRIL 20, 2015

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 25 Harmonics, 5MHz Bandwidth

Band LTE25

5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	I .
Low Ch, 18	852.5								
3705.00	-24.5	V	3.0	35.9	1.0	-59.3	-13.0	-46.3	
5557.50	-12.1	V	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7410.00	-14.3	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3705.00	-23.2	Н	3.0	35.9	1.0	-58.1	-13.0	-45.1	
5557.50	-14.2	Н	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7410.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 18	82.5								
3765.00	-24.3	V	3.0	35.8	1.0	-59.1	-13.0	-46.1	
5647.50	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7530.00	-17.6	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3765.00	-24.7	Н	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5647.50	-18.1	Н	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7530.00	-16.9	Н	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 1	912.5								
3825.00	-24.4	V	3.0	35.8	1.0	-59.1	-13.0	-46. 1	
5737.50	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7650.00	-15.7	V	3.0	35.8	1.0	-50.5	-13.0	-37.5	
3825.00	-24.4	Н	3.0	35.8	1.0	-59.2	-13.0	-46.2	
5737.50	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7650.00	-16.4	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

LG Electronics Company: Project #: 15120286 Date: 3/13/2015 O. Stoelting Test Engineer:

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 25 Harmonics, 3MHz Bandwidth

Band LTE25

3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 1	851.5								
3703.00	-23.3	V	3.0	35.9	1.0	-58.2	-13.0	-45.2	
5554.50	-15.9	V	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7406.00	-17.4	V	3.0	35.7	1.0	-52.2	-13.0	-39.2	
3703.00	-25.3	Н	3.0	35.9	1.0	-60.1	-13.0	-47.1	
5554.50	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7406.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	82.5								
3765.00	-21.4	V	3.0	35.8	1.0	-56.3	-13.0	-43.3	
5647.50	-15.6	V	3.0	35.5	1.0	-50.1	-13.0	-37.1	
7530.00	-14.3	V	3.0	35.7	1.0	-49.1	-13.0	-36.1	
3765.00	-23.4	Н	3.0	35.8	1.0	-58.2	-13.0	-45.2	
5647.50	-20.8	Н	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7530.00	-16.9	Н	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1	913.5								
3827.00	-22.5	V	3.0	35.8	1.0	-57.2	-13.0	-44.2	
5740.50	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7654.00	-16.7	V	3.0	35.8	1.0	-51.5	-13.0	-38.5	
3827.00	-23.2	Н	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5740.50	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7654.00	-16.5	Н	3.0	35.8	1.0	-51.2	-13.0	-38.2	

Above 1GHz High Frequency Substitution Measurement

LG Electronics Company: Project #: 15120286 Date: 3/13/2015 Test Engineer: Configuration: Test Engineer: O. Stoelting

X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 25 Harmonics, 3MHz Bandwidth

Band LTE25

3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	351.5			l J					
3703.00	-22.7	V	3.0	35.9	1.0	-57.6	-13.0	-44.6	
5554.50	-16.7	V	3.0	35.5	1.0	-51.2	-13.0	-38.2	
7406.00	-16.9	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3703.00	-25.3	Н	3.0	35.9	1.0	-60.2	-13.0	-47.2	
5554.50	-20.9	Н	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7406.00	-16.6	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 18	82.5				·				,
3765.00	-21.9	V	3.0	35.8	1.0	-56.7	-13.0	-43.7	
5647.50	-16.2	V	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7530.00	-14.2	V	3.0	35.7	1.0	-49.0	-13.0	-36.0	
3765.00	-23.2	Н	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5647.50	-20.9	Н	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7530.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 19	913.5			T T	i			i	
3827.00	-22.2	V	3.0	35.8	1.0	-56.9	-13.0	-43.9	
5740.50	-17.3	V	3.0	35.5	1.0	-51.8	-13.0	-38.8	
7654.00	-16.7	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
3827.00	-23.1	Н	3.0	35.8	1.0	-57.9	-13.0	-44.9	
5740.50	-19.4	Н	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7654.00	-16.2	Н	3.0	35.8	1.0	-50.9	-13.0	-37.9	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_16QAM Band 25 Harmonics, 1.4MHz Bandwidth

Band LTE25

1.4MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	50.7								
3701.40	-24.9	V	3.0	35.9	1.0	-59.7	-13.0	-46.7	
5552.10	-13.7	V	3.0	35.5	1.0	-48.2	-13.0	-35.2	
7402.80	-15.7	V	3.0	35.7	1.0	-50.4	-13.0	-37.4	
3701.40	-23.1	Н	3.0	35.9	1.0	-58.0	-13.0	-45.0	
5552.10	-20.0	Н	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7402.80	-17.1	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 18	B 2. 5								
3765.00	-24.7	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
5647.50	-17.9	V	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7530.00	-17.0	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
3765.00	-24.9	Н	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5647.50	-20.7	Н	3.0	35.5	1.0	-55.2	-13.0	-42.2	
7530.00	-16.8	Н	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 19	914.3								
3828.60	-21.0	V	3.0	35.8	1.0	-55.7	-13.0	-42.7	
5742.90	-18.7	V	3.0	35.5	1.0	-53.2	-13.0	-40.2	
7657.20	-17.2	V	3.0	35.8	1.0	-52.0	-13.0	-39.0	
3828.60	-25.0	Н	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5742.90	-19.8	Н	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7657.20	-15.3	Н	3.0	35.8	1.0	-50.1	-13.0	-37.1	
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UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 3/13/2015

 Test Engineer:
 O. Stoelting

Configuration: X-pos EUT/ AC Charger/ Headset

Location: Chamber C

Mode: LTE_QPSK Band 25 Harmonics, 1.4MHz Bandwidth

Band LTE25

1.4MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	350.7								
3701.40	-24.9	V	3.0	35.9	1.0	-59.7	-13.0	-46.7	
5552.10	-13.6	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
7402.80	-16.6	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
3701.40	-23.8	Н	3.0	35.9	1.0	-58.7	-13.0	-45.7	
5552.10	-20.6	Н	3.0	35.5	1.0	-55.1	-13.0	-42.1	
7402.80	-16.7	Н	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 18	82.5								
3765.00	-24.8	V	3.0	35.8	1.0	-59.6	-13.0	-46.6	
5647.50	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7530.00	-17.7	V	3.0	35.7	1.0	-52.4	-13.0	-39.4	
3765.00	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5647.50	-20.2	Н	3.0	35.5	1.0	-54.7	-13.0	-41.7	
7530.00	-17.0	Н	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1	914.3								
3828.60	-22.1	V	3.0	35.8	1.0	-56.9	-13.0	-43.9	
5742.90	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7657.20	-17.2	V	3.0	35.8	1.0	-51.9	-13.0	-38.9	
3828.60	-24.5	Н	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5742.90	-19.6	Н	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7657.20	-15.4	Н	3.0	35.8	1.0	-50.2	-13.0	-37.2	

FORM NO: CCSUP4701I

REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015
MODEL NUMBER: LG-LS991, LS991, LGLS991 FCC ID: ZNFLS991

LTE Band 26

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 26 Harmonics, 15MHz Bandwidth

Band

LTE26 15MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 83	31.5								
1663.00	-26.2	V	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2494.50	-17.6	V	3.0	36.4	1.0	-53.1	-13.0	-40.1	
3326.00	-22.0	V	3.0	36.2	1.0	-57.2	-13.0	-44.2	
1663.00	-26.4	Н	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2494.50	-22.0	Н	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3326.00	-22.0	Н	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 83	6.5								
1673.00	-27.5	V	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2509.50	-19.3	V	3.0	36.4	1.0	-54.7	-13.0	-41.7	
3346.00	-21.7	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1673.00	-27.4	Н	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-20.4	Н	3.0	36.4	1.0	-55.8	-13.0	-42.8	
3346.00	-22.1	Н	3.0	36.1	1.0	-57.2	-13.0	-44.2	
High Ch, 8	41.5								
1683.00	-25.9	V	3.0	37.0	1.0	-61.9	-13.0	-48.9	
2524.50	-18.2	V	3.0	36.4	1.0	-53.6	-13.0	-40.6	
3366.00	-21.3	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
1683.00	-27.1	Н	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2524.50	-16.4	Н	3.0	36.4	1.0	-51.8	-13.0	-38.8	
3366.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 26 Harmonics, 15MHz Bandwidth

Band LTE26

QPSK

15MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 83	31.5								
1663.00	-25.8	V	3.0	37.0	1.0	-61.8	-13.0	-48.8	
2494.50	-17.1	V	3.0	36.4	1.0	-52.6	-13.0	-39.6	
3326.00	-21.9	V	3.0	36.2	1.0	-57.1	-13.0	-44.1	
1663.00	-25.9	Н	3.0	37.0	1.0	-61.9	-13.0	-48.9	
2494.50	-19.8	Н	3.0	36.4	1.0	-55.2	-13.0	-42.2	
3326.00	-21.8	Н	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 830	6.5								
1673.00	-26.7	V	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2509.50	-15.3	V	3.0	36.4	1.0	-50.7	-13.0	-37.7	
3346.00	-21.8	V	3.0	36.1	1.0	-56.9	-13.0	-43.9	
1673.00	-27.2	Н	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2509.50	-19.0	Н	3.0	36.4	1.0	-54.4	-13.0	-41.4	
3346.00	-22.3	Н	3.0	36.1	1.0	-57.4	-13.0	-44.4	
High Ch, 84	41.5								
1683.00	-25.7	V	3.0	37.0	1.0	-61.7	-13.0	-48.7	
2524.50	-16.4	V	3.0	36.4	1.0	-51.8	-13.0	-38.8	
3366.00	-21.6	V	3.0	36.1	1.0	-56.7	-13.0	-43.7	
1683.00	-26.2	Н	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2524.50	-14.3	Н	3.0	36.4	1.0	-49.7	-13.0	-36.7	
3366.00	-21.6	Н	3.0	36.1	1.0	-56.7	-13.0	-43.7	

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 26 Harmonics, 10MHz Bandwidth

Band LTE26

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	19								
1638.00	-27.3	V	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2457.00	-22.7	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3276.00	-21.5	V	3.0	36.2	1.0	-56.7	-13.0	-43.7	
1638.00	-27.9	Н	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2457.00	-19.3	Н	3.0	36.4	1.0	-54.8	-13.0	-41.8	
3276.00	-22.4	Н	3.0	36.2	1.0	-57.6	-13.0	-44.6	
Mid Ch, 83	1.5								
1663.00	-25.8	V	3.0	37.0	1.0	-61.8	-13.0	-48.8	
2494.50	-15.5	V	3.0	36.4	1.0	-50.9	-13.0	-37.9	
3326.00	-21.6	V	3.0	36.1	1.0	-56.7	-13.0	-43.7	
1663.00	-28.0	Н	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2494.50	-21.2	Н	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3326.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	
High Ch, 8	44								
1688.00	-25.7	V	3.0	37.0	1.0	-61.7	-13.0	-48.7	
2532.00	-17.4	V	3.0	36.4	1.0	-52.8	-13.0	-39.8	
3376.00	-20.6	V	3.0	36.1	1.0	-55.7	-13.0	-42.7	
1688.00	-26.8	Н	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2532.00	-20.7	Н	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3376.00	-21.7	Н	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 #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 26 Harmonics, 10MHz Bandwidth

Band LTE26

10MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	9								
1638.00	-26.4	V	3.0	37.0	1.0	-62.5	-13.0	-49.5	
2457.00	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3276.00	-21.2	V	3.0	36.2	1.0	-56.4	-13.0	-43.4	
1638.00	-28.1	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2457.00	-18.4	Н	3.0	36.4	1.0	-53.9	-13.0	-40.9	
3276.00	-21.8	Н	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 83	1.5								
1663.00	-25.4	V	3.0	37.0	1.0	-61.4	-13.0	-48.4	
2494.50	-14.8	V	3.0	36.4	1.0	-50.2	-13.0	-37.2	
3326.00	-21.4	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
1663.00	-27.7	Н	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2494.50	-18.9	Н	3.0	36.4	1.0	-54.3	-13.0	-41.3	
3326.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 84	14								
1688.00	-23.0	V	3.0	37.0	1.0	-59.0	-13.0	-46.0	
2532.00	-16.1	V	3.0	36.4	1.0	-51.5	-13.0	-38.5	
3376.00	-20.9	V	3.0	36.1	1.0	-56.0	-13.0	-43.0	
1688.00	-27.5	Н	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2532.00	-19.5	Н	3.0	36.4	1.0	-54.9	-13.0	-41.9	
3376.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 26 Harmonics, 5MHz Bandwidth

Band LTE26

5MHz

16QAM

T	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	6.5								
1633.00	-25.3	V	3.0	37.0	1.0	-61.3	-13.0	-48.3	
2449.50	-18.5	V	3.0	36.4	1.0	-54.0	-13.0	-41.0	
3266.00	-21.8	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1633.00	-28.0	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2449.50	-16.3	Н	3.0	36.4	1.0	-51.7	-13.0	-38.7	
3266.00	-22.2	Н	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 831	.5								
1663.00	-26.2	V	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2494.50	-22.8	V	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3326.00	-21.7	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1663.00	-27.7	Н	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2494.50	-16.2	Н	3.0	36.4	1.0	-51.6	-13.0	-38.6	
3326.00	-22.2	Н	3.0	36.1	1.0	-57.3	-13.0	-44.3	
High Ch, 84	6.5								
1693.00	-27.2	V	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2539.50	-22.3	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3386.00	-21.8	V	3.0	36.1	1.0	-56.9	-13.0	-43.9	
1693.00	-27.1	Н	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2539.50	-17.7	Н	3.0	36.4	1.0	-53.1	-13.0	-40.1	
3386.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	

TEL: (510) 771-1000

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 26 Harmonics, 5MHz Bandwidth

Band LTE26

5MHz

MHz (dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) (dBm) (dB	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
1633.00 -24.0 V 3.0 37.0 1.0 -60.0 -13.0 -47.0 2449.50 -13.9 V 3.0 36.4 1.0 49.4 -13.0 -36.4 3266.00 -22.0 V 3.0 36.2 1.0 -57.1 -13.0 -44.1 1633.00 -27.7 H 3.0 36.4 1.0 -49.9 -13.0 -50.8 2449.50 -14.5 H 3.0 36.4 1.0 -49.9 -13.0 -36.9 3266.00 -21.8 H 3.0 36.2 1.0 -56.9 -13.0 -43.9 Mid Ch, 831.5	MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
2449.50 -13.9 V 3.0 36.4 1.0 -49.4 -13.0 -36.4 3266.00 -22.0 V 3.0 36.2 1.0 -57.1 -13.0 -44.1 1633.00 -27.7 H 3.0 37.0 1.0 -63.8 -13.0 -50.8 2449.50 -14.5 H 3.0 36.4 1.0 -49.9 -13.0 -36.9 3266.00 -21.8 H 3.0 36.2 1.0 -56.9 -13.0 -43.9 Mid Ch, 831.5	Low Ch, 81	6.5	,							
3266.00 22.0 V 3.0 36.2 1.0 -57.1 -13.0 -44.1 1633.00 -27.7 H 3.0 37.0 1.0 -63.8 -13.0 -50.8 2449.50 -14.5 H 3.0 36.4 1.0 -49.9 -13.0 -36.9 3266.00 -21.8 H 3.0 36.2 1.0 -56.9 -13.0 -43.9 Mid Ch, 831.5	1633.00	-24.0	V	3.0	37.0	1.0	-60.0	-13.0	-47.0	
1633.00	2449.50	-13.9	V	3.0	36.4	1.0	-49.4	-13.0	-36.4	
2449.50 -14.5 H 3.0 36.4 1.0 -49.9 -13.0 -36.9 3266.00 -21.8 H 3.0 36.2 1.0 -56.9 -13.0 -43.9 Mid Ch, 831.5	3266.00	-22.0	V	3.0	36.2	1.0	-57.1	-13.0	-44.1	
3266.00 21.8 H 3.0 36.2 1.0 -56.9 -13.0 43.9 Mid Ch, 831.5 1663.00 -25.9 V 3.0 37.0 1.0 -61.9 -13.0 48.9 2494.50 -22.3 V 3.0 36.4 1.0 -57.7 -13.0 -44.7 3326.00 -21.9 V 3.0 36.1 1.0 -57.0 -13.0 -44.0 1663.00 -28.0 H 3.0 37.0 1.0 -64.0 -13.0 -51.0 2494.50 -14.2 H 3.0 36.4 1.0 -49.6 -13.0 -56.6 3326.00 -21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9 High Ch, 846.5	1633.00	-27.7	Н	3.0	37.0	1.0	-63.8	-13.0	-50.8	
Mid Ch, 831.5 1663.00	2449.50	-14.5	Н	3.0	36.4	1.0	-49.9	-13.0	-36.9	
1663.00 -25.9 V 3.0 37.0 1.0 -61.9 -13.0 -48.9 2494.50 -22.3 V 3.0 36.4 1.0 -57.7 -13.0 -44.7 3326.00 -21.9 V 3.0 36.1 1.0 -57.0 -13.0 -44.0 1663.00 -28.0 H 3.0 37.0 1.0 -64.0 -13.0 -51.0 2494.50 14.2 H 3.0 36.4 1.0 49.6 13.0 36.6 3326.00 21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9 High Ch, 846.5 If a contract of the contr	3266.00	-21.8	Н	3.0	36.2	1.0	-56.9	-13.0	-43.9	
2494.50 -22.3 V 3.0 36.4 1.0 -57.7 -13.0 -44.7 3326.00 -21.9 V 3.0 36.1 1.0 -57.0 13.0 44.0 1663.00 -28.0 H 3.0 37.0 1.0 -64.0 -13.0 -51.0 2494.50 14.2 H 3.0 36.4 1.0 -49.6 -13.0 -36.6 3326.00 -21.8 H 3.0 36.1 1.0 -56.9 13.0 43.9 High Ch, 846.5 Image: Free Free Free Free Free Free Free Fr	Mid Ch, 83	1.5								
3326.00 21.9 V 3.0 36.1 1.0 -57.0 -13.0 44.0 1663.00 -28.0 H 3.0 37.0 1.0 -64.0 -13.0 -51.0 2494.50 -14.2 H 3.0 36.4 1.0 -49.6 -13.0 -36.6 3326.00 -21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9 High Ch, 846.5	1663.00	-25.9	V	3.0	37.0	1.0	-61.9	-13.0	-48.9	
1663.00 28.0 H 3.0 37.0 1.0 -64.0 -13.0 -51.0 2494.50 -14.2 H 3.0 36.4 1.0 -49.6 -13.0 -36.6 3326.00 -21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9 High Ch, 846.5 H 3.0 37.0 1.0 -63.5 -13.0 -50.5 2539.50 -22.6 V 3.0 36.4 1.0 -58.1 -13.0 -45.1 3386.00 -21.5 V 3.0 36.1 1.0 -56.6 -13.0 -43.6 1693.00 -27.4 H 3.0 37.0 1.0 -63.4 -13.0 -50.4 2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	2494.50	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
2494.50 -14.2 H 3.0 36.4 1.0 -49.6 -13.0 -36.6 3326.00 -21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9 High Ch, 846.5	3326.00	-21.9	V	3.0	36.1	1.0	-57.0	-13.0	-44.0	
3326.00	1663.00	-28.0	Н	3.0	37.0	1.0	-64.0	-13.0	-51.0	
High Ch, 846.5 1693.00	2494.50	-14.2	Н	3.0	36.4	1.0	-49.6	-13.0	-36.6	
1693.00 -27.5 V 3.0 37.0 1.0 -63.5 -13.0 -50.5 2539.50 -22.6 V 3.0 36.4 1.0 -58.1 -13.0 -45.1 3386.00 -21.5 V 3.0 36.1 1.0 -56.6 -13.0 -43.6 1693.00 -27.4 H 3.0 37.0 1.0 -63.4 -13.0 -50.4 2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	3326.00	-21.8	Н	3.0	36.1	1.0	-56.9	-13.0	-43.9	
2539.50 -22.6 V 3.0 36.4 1.0 -58.1 -13.0 -45.1 3386.00 -21.5 V 3.0 36.1 1.0 -56.6 -13.0 -43.6 1693.00 -27.4 H 3.0 37.0 1.0 -63.4 -13.0 -50.4 2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	High Ch, 84	46.5								
3386.00 -21.5 V 3.0 36.1 1.0 -56.6 -13.0 -43.6 1693.00 -27.4 H 3.0 37.0 1.0 -63.4 -13.0 -50.4 2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	1693.00	-27.5	V	3.0	37.0	1.0	-63.5	-13.0	-50.5	
1693.00 -27.4 H 3.0 37.0 1.0 -63.4 -13.0 -50.4 2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	2539.50	-22.6	V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
2539.50 -16.6 H 3.0 36.4 1.0 -52.0 -13.0 -39.0	3386.00	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
	1693.00	-27.4	Н	3.0	37.0	1.0	-63.4	-13.0	-50.4	
3386.00 -21.8 H 3.0 36.1 1.0 -56.9 -13.0 -43.9	2539.50	-16.6	Н	3.0	36.4	1.0	-52.0	-13.0	-39.0	
	3386.00	-21.8	Н	3.0	36.1	1.0	-56.9	-13.0	-43.9	
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Notes

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 26 Harmonics, 3MHz Bandwidth

Band LTE26

3MHz

16QAM

MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	5.5								
1631.00	-26.7	V	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2446.50	-23.2	V	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3262.00	-22.1	V	3.0	36.2	1.0	-57.3	-13.0	-44.3	
1631.00	-28.2	Н	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2446.50	-17.3	Н	3.0	36.4	1.0	-52.7	-13.0	-39.7	
3262.00	-22.1	Н	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 83	1.5								
1663.00	-27.0	V	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2494.50	-19.3	V	3.0	36.4	1.0	-54.7	-13.0	-41.7	
3326.00	-21.7	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1663.00	-29.5	Н	3.0	37.0	1.0	-65.5	-13.0	-52.5	
2494.50	-23.4	Н	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3326.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 84	17.5								
1695.00	-25.6	V	3.0	37.0	1.0	-61.6	-13.0	-48.6	
2542.50	-22.3	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3390.00	-21.6	V	3.0	36.1	1.0	-56.7	-13.0	-43.7	
1695.00	-27.0	Н	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2542.50	-22.8	Н	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3390.00	-21.9	Н	3.0	36.1	1.0	-57.0	-13.0	-44.0	

SG reading Ant. Pol. Distance Preamp Filter EIRP Limit Delta

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 26 Harmonics, 3MHz Bandwidth

Band LTE26

3MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	15.5								
1631.00	-24.9	V	3.0	37.0	1.0	-61.0	-13.0	-48.0	
2446.50	-15.0	V	3.0	36.4	1.0	-50.4	-13.0	-37.4	
3262.00	-21.7	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1631.00	-26.6	Н	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2446.50	-14.4	Н	3.0	36.4	1.0	-49.8	-13.0	-36.8	
3262.00	-22.5	Н	3.0	36.2	1.0	-57.7	-13.0	-44.7	
Mid Ch, 83	1.5								
1663.00	-26.4	V	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2494.50	-17.6	V	3.0	36.4	1.0	-53.0	-13.0	-40.0	
3326.00	-21.9	V	3.0	36.1	1.0	-57.0	-13.0	-44.0	
1663.00	-29.2	Н	3.0	37.0	1.0	-65.2	-13.0	-52.2	
2494.50	-21.9	Н	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3326.00	-20.8	Н	3.0	36.1	1.0	-55.9	-13.0	-42.9	
High Ch, 8	47.5								
1695.00	-23.8	V	3.0	37.0	1.0	-59.8	-13.0	-46.8	
2542.50	-22.2	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3390.00	-21.3	V	3.0	36.1	1.0	-56.4	-13.0	-43.4	
1695.00	-27.4	Н	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2542.50	-20.2	Н	3.0	36.4	1.0	-55.7	-13.0	-42.7	
3390.00	-21.3	Н	3.0	36.1	1.0	-56.4	-13.0	-43.4	

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

LG Electronics Company: Project #: 15120286 Date: 4/3/2015 Test Engineer: R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_16QAM Band 26 Harmonics, 1.4MHz Bandwidth

Band LTE26

1.4MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	4.7								
1629.40	-26.7	V	3.0	37.1	1.0	-62.8	-13.0	-49.8	
2444.10	-4.5	V	3.0	36.4	1.0	-39.9	-13.0	-26.9	
3258.80	-21.0	V	3.0	36.2	1.0	-56.2	-13.0	-43.2	
1629.40	-27.5	Н	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2444.10	3.8	Н	3.0	36.4	1.0	-31.7	-13.0	-18.7	
3258.80	-21.9	Н	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 83	1.5								
1663.00	-27.8	V	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2494.50	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3326.00	-21.5	V	3.0	36.1	1.0	-56.6	-13.0	-43.6	
1663.00	-27.9	Н	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2494.50	-17.5	Н	3.0	36.4	1.0	-52.9	-13.0	-39.9	
3326.00	-20.7	Н	3.0	36.1	1.0	-55.8	-13.0	-42.8	
High Ch, 84	18.3								
1696.60	-26.1	V	3.0	37.0	1.0	-62.1	-13.0	-49.1	
2544.90	-16.1	V	3.0	36.4	1.0	-51.5	-13.0	-38.5	
3393.20	-20.4	V	3.0	36.1	1.0	-55.4	-13.0	-42.4	
1696.60	-28.1	Н	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2544.90	-17.9	Н	3.0	36.4	1.0	-53.3	-13.0	-40.3	
3393.20	-21.5	Н	3.0	36.1	1.0	-56.6	-13.0	-43.6	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG Electronics

 Project #:
 15!20286

 Date:
 4/3/2015

 Test Engineer:
 R.Z

Configuration: EUT/ AC Charger/ Headset

Location: Chamber G

Mode: LTE_QPSK Band 26 Harmonics, 1.4MHz Bandwidth

Band LTE26

1.4MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 81	4.7								
1629.40	-27.5	V	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2444.10	-14.8	V	3.0	36.4	1.0	-50.2	-13.0	-37.2	
3258.80	-22.1	V	3.0	36.2	1.0	-57.3	-13.0	-44.3	
1629.40	-26.0	Н	3.0	37.1	1.0	-62.1	-13.0	-49.1	
2444.10	5.9	Н	3.0	36.4	1.0	-29.6	-13.0	-16.6	
3258.80	-21.7	Н	3.0	36.2	1.0	-56.9	-13.0	-43.9	
Mid Ch, 831	.5								
1663.00	-26.4	V	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2494.50	-12.7	V	3.0	36.4	1.0	-48.1	-13.0	-35.1	
3326.00	-20.0	V	3.0	36.1	1.0	-55.1	-13.0	-42.1	
1663.00	-27.6	Н	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2494.50	-0.6	Н	3.0	36.4	1.0	-36.0	-13.0	-23.0	
3326.00	-22.0	Н	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 84	8.3								
1696.60	-27.1	V	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2544.90	-15.1	V	3.0	36.4	1.0	-50.5	-13.0	-37.5	
3393.20	-21.8	V	3.0	36.1	1.0	-56.8	-13.0	-43.8	
1696.60	-26.7	Н	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-5.6	Н	3.0	36.4	1.0	-41.0	-13.0	-28.0	
3393.20	-21.1	Н	3.0	36.1	1.0	-56.2	-13.0	-43.2	

REPORT NO: 15I20286-E1A DATE: APRIL 20, 2015 FCC ID: ZNFLS991 MODEL NUMBER: LG-LS991, LS991, LGLS991

LTE Band 41

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company: LG Project #: 15120286 Date: 03/13/15 Test Engineer: O. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth

Band

LTE41 20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 25	06								
5012.00	-15.5	V	3.0	35.5	1.0	-50.0	-25.0	-25.0	
7518.00	-13.6	V	3.0	35.7	1.0	-48.3	-25.0	-23.3	
10024.00	-16.6	V	3.0	36.0	1.0	-51.6	-25.0	-26.6	
5012.00	-17.6	Н	3.0	35.5	1.0	-52.1	-25.0	-27.1	
7518.00	-0.6	Н	3.0	35.7	1.0	-35.4	-25.0	-10.4	
10024.00	1.7	Н	3.0	36.0	1.0	-33.3	-25.0	-8.3	
Mid Ch, 259	13								
5186.00	-17.5	V	3.0	35.4	1.0	-51.9	-25.0	-26.9	
7779.00	-5.1	V	3.0	35.8	1.0	-39.9	-25.0	-14.9	
10372.00	-9.4	V	3.0	35.8	1.0	-44.3	-25.0	-19.3	
5186.00	-13.3	Н	3.0	35.4	1.0	-47.7	-25.0	-22.7	
7779.00	-1.1	Н	3.0	35.8	1.0	-35.9	-25.0	-10.9	
10372.00	-4.1	Н	3.0	35.8	1.0	-38.9	-25.0	-13.9	
High Ch, 26	80								
5360.00	-12.7	V	3.0	35.4	1.0	-47.2	-25.0	-22.2	
8040.00	-9.7	V	3.0	35.8	1.0	-44.5	-25.0	-19.5	
10720.00	-14.6	V	3.0	35.7	1.0	-49.3	-25.0	-24.3	
5360.00	-17.0	Н	3.0	35.4	1.0	-51.5	-25.0	-26.5	
8040.00	3.5	Н	3.0	35.8	1.0	-31.3	-25.0	-6.3	
10720.00	-7.3	Н	3.0	35.7	1.0	-42.0	-25.0	-17.0	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 03/13/15

 Test Engineer:
 0. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth

Band LTE41

20MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 250	06								
5012.00	-19.0	V	3.0	35.5	1.0	-53.4	-25.0	-28.4	
7518.00	-15.5	V	3.0	35.7	1.0	-50.3	-25.0	-25.3	
10024.00	-17.1	V	3.0	36.0	1.0	-52.1	-25.0	-27.1	
5012.00	-16.7	Н	3.0	35.5	1.0	-51.1	-25.0	-26.1	
7518.00	-4.4	Н	3.0	35.7	1.0	-39.1	-25.0	-14.1	
10024.00	-4.4	Н	3.0	36.0	1.0	-39.4	-25.0	-14.4	
Mid Ch, 259	3								
5186.00	-17.0	V	3.0	35.4	1.0	-51.4	-25.0	-26.4	
7779.00	-5.9	V	3.0	35.8	1.0	-40.7	-25.0	-15.7	
10372.00	-10.8	V	3.0	35.8	1.0	-45.6	-25.0	-20.6	
5186.00	-13.5	Н	3.0	35.4	1.0	-47.9	-25.0	-22.9	
7779.00	-1.4	Н	3.0	35.8	1.0	-36.2	-25.0	-11.2	
10372.00	-5.6	Н	3.0	35.8	1.0	-40.5	-25.0	-15.5	
High Ch, 26	80								
5360.00	-13.2	V	3.0	35.4	1.0	-47.6	-25.0	-22.6	
8040.00	-9.7	V	3.0	35.8	1.0	-44.5	-25.0	-19.5	
10720.00	-14.3	V	3.0	35.7	1.0	-49.0	-25.0	-24.0	
5360.00	-14.9	Н	3.0	35.4	1.0	-49.4	-25.0	-24.4	
8040.00	4.2	Н	3.0	35.8	1.0	-30.6	-25.0	-5.6	
10720.00	-6.5	Н	3.0	35.7	1.0	-41.2	-25.0	-16.2	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 03/13/15

 Test Engineer:
 O. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth

Band LTE41

15MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 25	03.5								
5007.00	-18.8	V	3.0	35.5	1.0	-53.3	-25.0	-28.3	
7510.50	-6.0	V	3.0	35.7	1.0	-40.7	-25.0	-15.7	
10014.00	-7.2	V	3.0	36.0	1.0	-42.2	-25.0	-17.2	
5007.00	-17.2	Н	3.0	35.5	1.0	-51.6	-25.0	-26.6	
7510.50	-6.1	Н	3.0	35.7	1.0	-40.9	-25.0	-15.9	
10014.00	-2.6	Н	3.0	36.0	1.0	-37.6	-25.0	-12.6	
Mid Ch, 259	93								
5186.00	-17.9	V	3.0	35.4	1.0	-52.3	-25.0	-27.3	
7779.00	-9.0	V	3.0	35.8	1.0	-43.8	-25.0	-18.8	
10372.00	-15.9	V	3.0	35.8	1.0	-50.8	-25.0	-25.8	
5186.00	-15.4	Н	3.0	35.4	1.0	-49.9	-25.0	-24.9	
7779.00	-3.8	Н	3.0	35.8	1.0	-38.5	-25.0	-13.5	
10372.00	-7.4	Н	3.0	35.8	1.0	-42.3	-25.0	-17.3	
High Ch, 26	582.5								
5365.00	-12.9	V	3.0	35.4	1.0	-47.3	-25.0	-22.3	
8047.50	-11.6	V	3.0	35.8	1.0	-46.4	-25.0	-21.4	
10730.00	-6.9	V	3.0	35.7	1.0	-41.6	-25.0	-16.6	
5365.00	-13.2	Н	3.0	35.4	1.0	-47.6	-25.0	-22.6	
8047.50	1.3	Н	3.0	35.8	1.0	-33.5	-25.0	-8.5	
10730.00	-16.3	Н	3.0	35.7	1.0	-51.0	-25.0	-26.0	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 03/13/15

 Test Engineer:
 0. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth

Band LTE41

15MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 25	03.5								
5007.00	-17.4	V	3.0	35.5	1.0	-51.8	-25.0	-26.8	
7510.50	-3.8	V	3.0	35.7	1.0	-38.5	-25.0	-13.5	
10014.00	-4.4	V	3.0	36.0	1.0	-39.4	-25.0	-14.4	
5007.00	-18.0	Н	3.0	35.5	1.0	-52.4	-25.0	-27.4	
7510.50	-5.2	Н	3.0	35.7	1.0	-39.9	-25.0	-14.9	
10014.00	-1.5	Н	3.0	36.0	1.0	-36.5	-25.0	-11.5	
Mid Ch, 259)3								
5186.00	-18.0	V	3.0	35.4	1.0	-52.5	-25.0	-27.5	
7779.00	-8.9	V	3.0	35.8	1.0	-43.7	-25.0	-18.7	
10372.00	-16.3	V	3.0	35.8	1.0	-51.2	-25.0	-26.2	
5186.00	-15.8	Н	3.0	35.4	1.0	-50.3	-25.0	-25.3	
7779.00	-4.3	Н	3.0	35.8	1.0	-39.1	-25.0	-14.1	
10372.00	-8.5	Н	3.0	35.8	1.0	-43.3	-25.0	-18.3	
High Ch, 26	82.5								
5365.00	-13.0	V	3.0	35.4	1.0	-47.5	-25.0	-22.5	
8047.50	-11.0	V	3.0	35.8	1.0	-45.8	-25.0	-20.8	
10730.00	-6.9	V	3.0	35.7	1.0	-41.5	-25.0	-16.5	
5365.00	-12.8	Н	3.0	35.4	1.0	-47.3	-25.0	-22.3	
8047.50	1.2	Н	3.0	35.8	1.0	-33.6	-25.0	-8.6	
10730.00	-16.4	Н	3.0	35.7	1.0	-51.1	-25.0	-26.1	

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Above 1GHz High Frequency Substitution Measurement

LG Company: Project #: 15120286 Date: 03/13/15 Test Engineer: O. Stoelting

Z-pos EUT/AC Charger/Headset Configuration:

Location: Chamber C

Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth

Band LTE41

10MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 25	01								
5002.00	-16.9	V	3.0	35.5	1.0	-51.4	-25.0	-26.4	
7503.00	-4.9	V	3.0	35.7	1.0	-39.6	-25.0	-14.6	
10004.00	-10.8	V	3.0	36.0	1.0	-45.9	-25.0	-20.9	
5002.00	-17.5	Н	3.0	35.5	1.0	-51.9	-25.0	-26.9	
7503.00	0.6	Н	3.0	35.7	1.0	-34.1	-25.0	-9.1	
10004.00	-10.3	Н	3.0	36.0	1.0	-45.3	-25.0	-20.3	
Mid Ch, 259	13								
5186.00	-16.9	V	3.0	35.4	1.0	-51.3	-25.0	-26.3	
7779.00	-7.9	V	3.0	35.8	1.0	-42.7	-25.0	-17.7	
10372.00	-12.5	V	3.0	35.8	1.0	-47.4	-25.0	-22.4	
5186.00	-13.3	Н	3.0	35.4	1.0	-47.7	-25.0	-22.7	
7779.00	5.4	Н	3.0	35.8	1.0	-29.4	-25.0	-4.4	
10372.00	-8.7	Н	3.0	35.8	1.0	-43.6	-25.0	-18.6	
High Ch, 26	85								
5370.00	-11.7	V	3.0	35.4	1.0	-46.2	-25.0	-21.2	
8055.00	-12.2	V	3.0	35.8	1.0	-47.0	-25.0	-22.0	
10740.00	-5.3	V	3.0	35.7	1.0	-40.0	-25.0	-15.0	
5370.00	-12.2	Н	3.0	35.4	1.0	-46.6	-25.0	-21.6	
8055.00	-6.6	Н	3.0	35.8	1.0	-41.4	-25.0	-16.4	
10740.00	-10.6	Н	3.0	35.7	1.0	-45.3	-25.0	-20.3	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15/20286

 Date:
 03/13/15

 Test Engineer:
 0. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth

Band LTE41

10MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 25	501								
5002.00	-17.6	V	3.0	35.5	1.0	-52.1	-25.0	-27.1	
7503.00	-3.7	V	3.0	35.7	1.0	-38.5	-25.0	-13.5	
10004.00	-9.7	V	3.0	36.0	1.0	-44.7	-25.0	-19.7	
5002.00	-16.7	Н	3.0	35.5	1.0	-51.2	-25.0	-26.2	
7503.00	1.7	Н	3.0	35.7	1.0	-33.1	-25.0	-8.1	
10004.00	-9.4	Н	3.0	36.0	1.0	-44.4	-25.0	-19.4	
Mid Ch, 25	93								
5186.00	-16.3	V	3.0	35.4	1.0	-50.7	-25.0	-25.7	
7779.00	-8.3	V	3.0	35.8	1.0	-43.1	-25.0	-18.1	
10372.00	-13.9	V	3.0	35.8	1.0	-48.8	-25.0	-23.8	
5186.00	-13.6	Н	3.0	35.4	1.0	-48.0	-25.0	-23.0	
7779.00	5.2	Н	3.0	35.8	1.0	-29.6	-25.0	-4.6	
10372.00	-10.3	Н	3.0	35.8	1.0	-45.1	-25.0	-20.1	
High Ch, 20	685								
5370.00	-11.5	V	3.0	35.4	1.0	-46.0	-25.0	-21.0	
8055.00	-12.4	V	3.0	35.8	1.0	-47.2	-25.0	-22.2	
10740.00	-6.0	V	3.0	35.7	1.0	-40.7	-25.0	-15.7	
5370.00	-12.1	Н	3.0	35.4	1.0	-46.6	-25.0	-21.6	
8055.00	-6.9	Н	3.0	35.8	1.0	-41.7	-25.0	-16.7	
10740.00	-11.2	Н	3.0	38.0	1.0	-48.2	-25.0	-23.2	

FORM NO: CCSUP4701I

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15!20286

 Date:
 03/13/15

 Test Engineer:
 0. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_16QAM Band 41 Harmonics, 5MHz Bandwidth

Band LTE41

5MHz

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 24	198.5								
4997.00	-16.9	V	3.0	35.5	1.0	-51.3	-25.0	-26.3	
7495.50	-2.0	V	3.0	35.7	1.0	-36.7	-25.0	-11.7	
9994.00	-9.3	V	3.0	36.0	1.0	-44.3	-25.0	-19.3	
4997.00	-16.9	Н	3.0	35.5	1.0	-51.4	-25.0	-26.4	
7495.50	-0.7	Н	3.0	35.7	1.0	-35.5	-25.0	-10.5	
9994.00	-6.7	Н	3.0	36.0	1.0	-41.7	-25.0	-16.7	
Mid Ch, 25	93								
5186.00	-15.6	V	3.0	35.4	1.0	-50.0	-25.0	-25.0	
7779.00	-9.3	V	3.0	35.8	1.0	-44.1	-25.0	-19.1	
10372.00	-12.1	V	3.0	35.8	1.0	-47.0	-25.0	-22.0	
5186.00	-13.8	Н	3.0	35.4	1.0	-48.2	-25.0	-23.2	
7779.00	-6.6	Н	3.0	35.8	1.0	-41.3	-25.0	-16.3	
10372.00	-14.3	Н	3.0	35.8	1.0	-49.1	-25.0	-24.1	
High Ch, 2	687.5								
5375.00	-13.7	V	3.0	35.4	1.0	-48.2	-25.0	-23.2	
8062.50	-11.8	V	3.0	35.8	1.0	-46.6	-25.0	-21.6	
10750.00	-8.6	V	3.0	35.7	1.0	-43.3	-25.0	-18.3	
5375.00	-11.6	Н	3.0	35.4	1.0	-46.1	-25.0	-21.1	
8062.50	-3.8	Н	3.0	35.8	1.0	-38.6	-25.0	-13.6	
10750.00	-11.7	Н	3.0	35.7	1.0	-46.3	-25.0	-21.3	

Above 1GHz High Frequency Substitution Measurement

 Company:
 LG

 Project #:
 15l20286

 Date:
 03/13/15

 Test Engineer:
 0. Stoelting

Configuration: Z-pos EUT/AC Charger/Headset

Location: Chamber C

Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

Band LTE41

5MHz

MHz Low Ch, 2498.	(dBm)	(H/V)	(m)	(10)					
		V /	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
	.5								
4997.00	-16.5	V	3.0	35.5	1.0	-50.9	-25.0	-25.9	
7495.50	-3.1	V	3.0	35.7	1.0	-37.8	-25.0	-12.8	
9994.00	-10.7	V	3.0	36.0	1.0	-45.7	-25.0	-20.7	
4997.00	-16.9	Н	3.0	35.5	1.0	-51.4	-25.0	-26.4	
7495.50	-2.0	Н	3.0	35.7	1.0	-36.8	-25.0	-11.8	
9994.00	-8.6	Н	3.0	36.0	1.0	-43.6	-25.0	-18.6	
Mid Ch, 2593									
5186.00	-15.5	V	3.0	35.4	1.0	-50.0	-25.0	-25.0	
7779.00	-8.9	V	3.0	35.8	1.0	-43.7	-25.0	-18.7	
10372.00	-13.2	V	3.0	35.8	1.0	-48.1	-25.0	-23.1	
5186.00	-13.4	Н	3.0	35.4	1.0	-47.8	-25.0	-22.8	
7779.00	-6.9	Н	3.0	35.8	1.0	-41.7	-25.0	-16.7	
10372.00	-14.3	Н	3.0	35.8	1.0	-49.1	-25.0	-24.1	
High Ch, 2687.	.5								
5375.00	-14.8	V	3.0	35.4	1.0	-49.3	-25.0	-24.3	
8062.50	-12.2	V	3.0	35.8	1.0	-47.0	-25.0	-22.0	
10750.00	-9.1	V	3.0	35.7	1.0	-43.8	-25.0	-18.8	
5375.00	-11.0	Н	3.0	35.4	1.0	-45.5	-25.0	-20.5	
8062.50	-4.3	Н	3.0	35.8	1.0	-39.1	-25.0	-14.1	
10750.00	-12.0	Н	3.0	35.7	1.0	-46.6	-25.0	-21.6	