Band

LTE41

20MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2506.00	8.80	V	0.9	9.5	17.38	33.0	-15.6	
2506.00	12.77	H	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	H	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	H	0.9	9.7	23.13	33.0	-9.9	

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Band

LTE41

15MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	10.20	V	0.9	9.5	18.78	33.0	-14.2	-29.8
2503.50	12.90	H	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	H	0.9	9.5	22.21	33.0	-10.8	-26.3
High Ch								
2682.50	9.40	V	0.9	9.7	18.23	33.0	-14.8	-30.2
2682.50	12.60	H	0.9	9.7	21.43	33.0	-11.6	-26.9

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Band

LTE41

15MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	10.80	V	0.9	9.5	19.38	33.0	-13.6	-29.2
2503.50	13.60	H	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	H	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	H	0.9	9.7	21.93	33.0	-11.1	-26.4

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Band

LTE41

10MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	9.80	V	0.9	9.5	18.38	33.0	-14.6	-30.2
2501.00	13.50	H	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	H	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	H	0.9	9.7	22.44	33.0	-10.6	-25.9

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Band

LTE41

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	10.50	V	0.9	9.5	19.08	33.0	-13.9	-29.5
2501.00	14.10	H	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	H	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	H	0.9	9.7	23.04	33.0	-10.0	-25.3

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Band

LTE41

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	8.30	V	0.9	9.5	16.87	33.0	-16.1	-31.7
2498.50	13.80	H	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	H	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	H	0.9	9.7	23.35	33.0	-9.7	-25.0

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Band

LTE41

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	8.80	V	0.9	9.5	17.37	33.0	-15.6	-31.2
2498.50	14.40	H	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	H	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	H	0.9	9.7	23.98	33.0	-9.0	-24.4

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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)

Band

BC1

EVDO

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 BC1

Test Equipment:
Receiving: Horn T862, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 6ft SMA Cable

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch								
1.8800	16.8	V	0.90	9.20	25.10	33.0	-7.9	
1.8800	17.4	H	0.90	9.20	25.71	33.0	-7.3	

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Band

BC0

EVDO

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

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

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

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Band

BC10

EVDO

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 BC10

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

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

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11.2.1.2. LTE (MID CHANNEL ONLY)

Band

LTE41

5MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
Date: 3/30/2015
Test Engineer: R.Z
Configuration: EUT w/ Smart Case
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

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

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Band

LTE26

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

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

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

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Band

LTE25

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20286
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

Test Equpment:
Receiving: Horn T136, and Chamber A SMA Cables
Substitution: Horn T59, 4ft 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								
1882.50	5.09	V	0.9	7.9	12.06	33.0	-20.9	
1882.50	18.43	H	0.9	7.9	25.40	33.0	-7.6	

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Band

LTE12

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I20286
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

Test Equpment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft SMA Cable

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

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Band

LTE4

1.4MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG Electronics
Project #: 15I20286
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

Test Equpment:
Receiving: Horn T862, and Chamber G SMA Cables
Substitution: Horn T60, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch								
1732.50	15.30	V	0.9	8.2	22.57	30.0	-7.4	-21.7
1732.50	15.60	H	0.9	8.2	22.87	30.0	-7.1	-21.0

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11.3. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

Part 27: (m)(4) 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

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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11.3.1. SPURIOUS RADIATION PLOTS

GSM

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

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: EGPRS1900

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

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.2MHz									
GSM	3.700	-17.9	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
1900	5.551	-13.1	V	3.0	34.7	1.0	-46.8	-13.0	-33.8	
	7.401	-18.6	V	3.0	34.9	1.0	-52.5	-13.0	-39.5	
	3.700	-19.9	H	3.0	35.4	1.0	-54.3	-13.0	-41.3	
EGPRS	5.551	-13.7	H	3.0	34.7	1.0	-47.4	-13.0	-34.4	
	7.401	-14.6	H	3.0	34.9	1.0	-48.5	-13.0	-35.5	
	Mid Ch, 1880.0MHz									
	3.760	-22.4	V	3.0	35.3	1.0	-56.7	-13.0	-43.7	
	5.640	-20.0	V	3.0	34.7	1.0	-53.8	-13.0	-40.8	
	7.520	-18.1	V	3.0	34.9	1.0	-52.0	-13.0	-39.0	
	3.760	-22.5	H	3.0	35.3	1.0	-56.9	-13.0	-43.9	
	5.640	-19.7	H	3.0	34.7	1.0	-53.4	-13.0	-40.4	
	7.520	-17.4	H	3.0	34.9	1.0	-51.4	-13.0	-38.4	
	High Ch, 1909.8MHz									
	3.820	-15.3	V	3.0	35.3	1.0	-49.5	-13.0	-36.5	
	5.729	-18.1	V	3.0	34.7	1.0	-51.9	-13.0	-38.9	
	7.639	-18.0	V	3.0	35.0	1.0	-52.0	-13.0	-39.0	
	3.820	-17.5	H	3.0	35.3	1.0	-51.8	-13.0	-38.8	
	5.729	-15.9	H	3.0	34.7	1.0	-49.7	-13.0	-36.7	
	7.639	-14.0	H	3.0	35.0	1.0	-48.0	-13.0	-35.0	

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

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

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: GPRS1900

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

Band	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.2MHz									
GSM 1900	3.700	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
	5.551	-6.3	V	3.0	34.7	1.0	-40.0	-13.0	-27.0	
	7.401	-13.9	V	3.0	34.9	1.0	-47.8	-13.0	-34.8	
GPRS	3.700	-20.0	H	3.0	35.4	1.0	-54.4	-13.0	-41.4	
	5.551	3.9	H	3.0	34.7	1.0	-29.8	-13.0	-16.8	
	7.401	-8.6	H	3.0	34.9	1.0	-42.5	-13.0	-29.5	
	Mid Ch, 1880.0MHz									
	3.760	-13.8	V	3.0	35.3	1.0	-48.2	-13.0	-35.2	
	5.640	-8.2	V	3.0	34.7	1.0	-42.0	-13.0	-29.0	
	7.520	-14.8	V	3.0	34.9	1.0	-48.7	-13.0	-35.7	
	3.760	-14.2	H	3.0	35.3	1.0	-48.5	-13.0	-35.5	
	5.640	-0.7	H	3.0	34.7	1.0	-34.4	-13.0	-21.4	
	7.520	-14.6	H	3.0	34.9	1.0	-48.5	-13.0	-35.5	
	High Ch, 1909.8MHz									
	3.820	-13.9	V	3.0	35.3	1.0	-48.2	-13.0	-35.2	
	5.729	-16.1	V	3.0	34.7	1.0	-49.8	-13.0	-36.8	
	7.639	-17.0	V	3.0	35.0	1.0	-50.9	-13.0	-37.9	
	3.820	-13.6	H	3.0	35.3	1.0	-47.9	-13.0	-34.9	
	5.729	-6.7	H	3.0	34.7	1.0	-40.4	-13.0	-27.4	
	7.639	-9.5	H	3.0	35.0	1.0	-43.4	-13.0	-30.4	

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

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Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Z-pos EUT w/ AC Adapter + Headset
Location: Chamber B
Mode: EGPRS 850 MHz Harmonics

Band

GSM 850

EGPRS

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
1648.40	-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	H	3.0	37.0	1.0	-60.2	-13.0	-47.2	
2472.60	-30.5	H	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3296.80	-26.8	H	3.0	36.2	1.0	-62.0	-13.0	-49.0	
Mid Ch, 836.6									
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	H	3.0	37.0	1.0	-66.8	-13.0	-53.8	
2509.80	-30.6	H	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3346.40	-26.8	H	3.0	36.1	1.0	-62.0	-13.0	-49.0	
High Ch, 848.8									
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	H	3.0	37.0	1.0	-66.2	-13.0	-53.2	
2546.40	-28.3	H	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3395.20	-26.5	H	3.0	36.1	1.0	-61.6	-13.0	-48.6	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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Band

GSM 850

GPRS

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Z-pos EUT w/ AC Adapter + Headset
Location: Chamber B
Mode: GPRS 850 MHz Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2									
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	H	3.0	37.0	1.0	-58.1	-13.0	-45.1	
2472.60	-30.3	H	3.0	36.4	1.0	-65.7	-13.0	-52.7	
3296.80	-26.9	H	3.0	36.2	1.0	-62.0	-13.0	-49.0	
Mid Ch, 836.6									
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	H	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2509.80	-28.9	H	3.0	36.4	1.0	-64.3	-13.0	-51.3	
3346.40	-26.8	H	3.0	36.1	1.0	-61.9	-13.0	-48.9	
High Ch, 848.8									
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	H	3.0	37.0	1.0	-66.8	-13.0	-53.8	
2546.40	-28.2	H	3.0	36.4	1.0	-63.7	-13.0	-50.7	
3395.20	-26.6	H	3.0	36.1	1.0	-61.7	-13.0	-48.7	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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WCDMA

UL Verification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: HSDPA_B2

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

Band

Band 2

HSDPA

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-22.4	V	3.0	35.4	1.0	-56.8	-13.0	-43.8	
5.557	-19.2	V	3.0	34.7	1.0	-52.9	-13.0	-39.9	
7.410	-18.6	V	3.0	34.9	1.0	-52.6	-13.0	-39.6	
3.705	-22.7	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
5.557	-19.2	H	3.0	34.7	1.0	-52.9	-13.0	-39.9	
7.410	-17.2	H	3.0	34.9	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1880MHz									
3.760	-22.4	V	3.0	35.3	1.0	-56.7	-13.0	-43.7	
5.640	-20.0	V	3.0	34.7	1.0	-53.8	-13.0	-40.8	
7.520	-18.7	V	3.0	34.9	1.0	-52.6	-13.0	-39.6	
3.760	-22.5	H	3.0	35.3	1.0	-56.8	-13.0	-43.8	
5.640	-17.4	H	3.0	34.7	1.0	-51.1	-13.0	-38.1	
7.520	-16.6	H	3.0	34.9	1.0	-50.5	-13.0	-37.5	
High Ch, 1907.6MHz									
3.815	-21.9	V	3.0	35.3	1.0	-56.2	-13.0	-43.2	
5.723	-20.1	V	3.0	34.7	1.0	-53.8	-13.0	-40.8	
7.630	-18.2	V	3.0	34.9	1.0	-52.1	-13.0	-39.1	
3.815	-20.8	H	3.0	35.3	1.0	-55.1	-13.0	-42.1	
5.723	-18.4	H	3.0	34.7	1.0	-52.1	-13.0	-39.1	
7.630	-15.9	H	3.0	34.9	1.0	-49.8	-13.0	-36.8	

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

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

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Y-pos EUT w/ AC Adapter + Headset
Mode: Rel99_B2

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

Band

Band 2

REL99

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.705	-21.8	V	3.0	35.4	1.0	-56.2	-13.0	-43.2	
5.557	-19.7	V	3.0	34.7	1.0	-53.4	-13.0	-40.4	
7.410	-18.6	V	3.0	34.9	1.0	-52.5	-13.0	-39.5	
3.705	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
5.557	-14.9	H	3.0	34.7	1.0	-48.6	-13.0	-35.6	
7.410	-17.2	H	3.0	34.9	1.0	-51.1	-13.0	-38.1	
Mid Ch, 1880MHz									
3.760	-21.7	V	3.0	35.3	1.0	-56.1	-13.0	-43.1	
5.640	-20.0	V	3.0	34.7	1.0	-53.7	-13.0	-40.7	
7.520	-18.7	V	3.0	34.9	1.0	-52.6	-13.0	-39.6	
3.760	-22.6	H	3.0	35.3	1.0	-56.9	-13.0	-43.9	
5.640	-17.9	H	3.0	34.7	1.0	-51.6	-13.0	-38.6	
7.520	-17.3	H	3.0	34.9	1.0	-51.2	-13.0	-38.2	
High Ch, 1907.6MHz									
3.815	-21.7	V	3.0	35.3	1.0	-56.0	-13.0	-43.0	
5.723	-20.1	V	3.0	34.7	1.0	-53.9	-13.0	-40.9	
7.630	-18.1	V	3.0	34.9	1.0	-52.0	-13.0	-39.0	
3.815	-21.7	H	3.0	35.3	1.0	-56.0	-13.0	-43.0	
5.723	-19.1	H	3.0	34.7	1.0	-52.8	-13.0	-39.8	
7.630	-16.4	H	3.0	34.9	1.0	-50.4	-13.0	-37.4	

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

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Band

Band 5

HSDPA

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Z-pos EUT w/ AC Adapter + Headset
Location: Chamber B
Mode: HSDPA Band 5 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4									
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	H	3.0	37.0	1.0	-69.0	-13.0	-56.0	
2479.20	-30.4	H	3.0	36.4	1.0	-65.8	-13.0	-52.8	
3305.60	-26.6	H	3.0	36.1	1.0	-61.7	-13.0	-48.7	
Mid Ch, 836.6									
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	H	3.0	37.0	1.0	-68.8	-13.0	-55.8	
2509.80	-30.3	H	3.0	36.4	1.0	-65.7	-13.0	-52.7	
3346.40	-26.8	H	3.0	36.1	1.0	-61.9	-13.0	-48.9	
High Ch, 846.6									
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	H	3.0	37.0	1.0	-68.7	-13.0	-55.7	
2539.80	-30.5	H	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3386.40	-26.6	H	3.0	36.1	1.0	-61.7	-13.0	-48.7	

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Band

Band 5

REL99

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
Date: 3/23/2015
Test Engineer: O. Stoelting
Configuration: Z-pos EUT w/ AC Adapter + Headset
Location: Chamber B
Mode: Rel99 Band 5 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4									
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	H	3.0	37.0	1.0	-68.9	-13.0	-55.9	
2479.20	-30.5	H	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3305.60	-27.0	H	3.0	36.1	1.0	-62.1	-13.0	-49.1	
Mid Ch, 836.6									
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	H	3.0	37.0	1.0	-68.6	-13.0	-55.6	
2509.80	-30.5	H	3.0	36.4	1.0	-65.9	-13.0	-52.9	
3346.40	-26.9	H	3.0	36.1	1.0	-62.0	-13.0	-49.0	
High Ch, 846.6									
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	H	3.0	37.0	1.0	-68.2	-13.0	-55.2	
2539.80	-30.6	H	3.0	36.4	1.0	-66.0	-13.0	-53.0	
3386.40	-26.8	H	3.0	36.1	1.0	-61.8	-13.0	-48.8	

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CDMA

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

Company: LG Electronics
Project #: 15I20286
Date: 4/2/2015
Test Engineer: R.Z
Configuration: EUT , AC Adapter, Headset
Location: Chamber G
Mode: CDMA EVDO BC1 Harmonics

Band BC1

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-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	H	3.0	35.9	1.0	-50.2	-13.0	-37.2	
5553.75	-12.2	H	3.0	35.5	1.0	-46.6	-13.0	-33.6	
7405.00	-10.9	H	3.0	35.7	1.0	-45.6	-13.0	-32.6	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-53.9	-13.0	-40.9	
5640.00	-15.3	H	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7520.00	-12.2	H	3.0	35.7	1.0	-47.0	-13.0	-34.0	
High Ch, 1908.75									
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	H	3.0	35.8	1.0	-52.9	-13.0	-39.9	
5726.25	-15.2	H	3.0	35.5	1.0	-49.7	-13.0	-36.7	
7635.00	-12.3	H	3.0	35.8	1.0	-47.1	-13.0	-34.1	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-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	H	3.0	35.9	1.0	-50.7	-13.0	-37.7	
5553.75	-13.8	H	3.0	35.5	1.0	-48.2	-13.0	-35.2	
7405.00	-11.5	H	3.0	35.7	1.0	-46.2	-13.0	-33.2	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-52.4	-13.0	-39.4	
5640.00	-16.5	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7520.00	-11.9	H	3.0	35.7	1.0	-46.7	-13.0	-33.7	
High Ch, 1908.75									
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	H	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5726.25	-14.2	H	3.0	35.5	1.0	-48.7	-13.0	-35.7	
7635.00	-11.1	H	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 #: 15I20286
Date: 4/2/2015
Test Engineer: R.Z
Configuration: EUT , AC Adapter, Headset
Location: Chamber G
Mode: CDMA EVDO BC0 Harmonics

Band BC0

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-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	H	3.0	37.4	1.0	-62.8	-13.0	-49.8	
2474.10	-18.3	H	3.0	36.4	1.0	-53.7	-13.0	-40.7	
3298.80	-19.9	H	3.0	35.8	1.0	-54.7	-13.0	-41.7	
Mid Ch, 836.52									
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	H	3.0	37.3	1.0	-62.6	-13.0	-49.6	
2509.56	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3346.08	-20.2	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
High Ch, 848.31									
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	H	3.0	37.3	1.0	-61.8	-13.0	-48.8	
2544.93	-23.4	H	3.0	36.3	1.0	-58.7	-13.0	-45.7	
3393.24	-19.8	H	3.0	35.7	1.0	-54.5	-13.0	-41.5	

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

Company: LG Electronics
Project #: 15I20286
Date: 4/2/2015
Test Engineer: R.Z
Configuration: EUT , AC Adapter, Headset
Location: Chamber G
Mode: CDMA 1xRTT BC0 Harmonics

Band BC0 1xRTT

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-22.6	V	3.0	37.4	1.0	-59.0	-13.0	-46.0	
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	H	3.0	37.4	1.0	-62.1	-13.0	-49.1	
2474.10	-12.7	H	3.0	36.4	1.0	-48.1	-13.0	-35.1	
3298.80	-19.7	H	3.0	35.8	1.0	-54.5	-13.0	-41.5	
Mid Ch, 836.52									
1673.04	-23.9	V	3.0	37.3	1.0	-60.2	-13.0	-47.2	
2509.56	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
3346.08	-20.4	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
1673.04	-27.1	H	3.0	37.3	1.0	-63.4	-13.0	-50.4	
2509.56	-4.5	H	3.0	36.4	1.0	-39.9	-13.0	-26.9	
3346.08	-19.9	H	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	-20.4	V	3.0	36.3	1.0	-55.7	-13.0	-42.7	
3393.24	-20.2	V	3.0	35.7	1.0	-54.9	-13.0	-41.9	
1696.62	-27.6	H	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2544.93	-20.7	H	3.0	36.3	1.0	-56.0	-13.0	-43.0	
3393.24	-19.6	H	3.0	35.7	1.0	-54.3	-13.0	-41.3	

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

Company: LG Electronics
Project #: 15I20286
Date: 4/2/2015
Test Engineer: R.Z
Configuration: EUT , AC Adapter, Headset
Location: Chamber G
Mode: CDMA EVDO BC10 Harmonics

Band BC10

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.9MHz									
1.636	-25.2	V	3.0	37.4	1.0	-61.6	-13.0	-48.6	
2.454	-20.8	V	3.0	36.4	1.0	-56.2	-13.0	-43.2	
3.272	-20.2	V	3.0	35.8	1.0	-55.0	-13.0	-42.0	
1.636	-26.4	H	3.0	37.4	1.0	-62.8	-13.0	-49.8	
2.454	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3.272	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
Mid Ch, 820.5MHz									
1.641	-25.7	V	3.0	37.3	1.0	-62.0	-13.0	-49.0	
2.462	-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	H	3.0	37.3	1.0	-62.2	-13.0	-49.2	
2.462	-6.2	H	3.0	36.4	1.0	-41.6	-13.0	-28.6	
3.282	-19.9	H	3.0	35.8	1.0	-54.7	-13.0	-41.7	
High Ch, 823.1MHz									
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	H	3.0	37.3	1.0	-61.5	-13.0	-48.5	
2.469	-23.4	H	3.0	36.3	1.0	-58.7	-13.0	-45.7	
3.292	-20.3	H	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 #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 817.9MHz									
1.636	-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	H	3.0	37.4	1.0	-63.0	-13.0	-50.0	
2.454	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3.272	-20.1	H	3.0	35.8	1.0	-54.9	-13.0	-41.9	
Mid Ch, 820.5MHz									
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	H	3.0	37.3	1.0	-61.3	-13.0	-48.3	
2.462	-2.2	H	3.0	36.4	1.0	-37.6	-13.0	-24.6	
3.282	-20.9	H	3.0	35.8	1.0	-55.7	-13.0	-42.7	
High Ch, 823.1MHz									
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	H	3.0	37.3	1.0	-61.9	-13.0	-48.9	
2.469	-23.5	H	3.0	36.3	1.0	-58.8	-13.0	-45.8	
3.292	-21.0	H	3.0	35.7	1.0	-55.7	-13.0	-42.7	

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LTE Band 2

Band

LTE2

20MHz

16QAM

UL Verification Services, Inc.
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_16QAM Band 2 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-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	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5580.00	-15.4	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7440.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5640.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7520.00	-15.8	H	3.0	35.7	1.0	-50.6	-13.0	-37.6	
High Ch, 1900									
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	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5700.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7600.00	-14.8	H	3.0	35.8	1.0	-49.6	-13.0	-36.6	

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Band

LTE2

20MHz

QPSK

UL Verification Services, Inc.
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 2 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-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	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5580.00	-16.2	H	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7440.00	-16.5	H	3.0	35.7	1.0	-51.3	-13.0	-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	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5640.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7520.00	-15.9	H	3.0	35.7	1.0	-50.7	-13.0	-37.7	
High Ch, 1900									
3800.00	-20.2	V	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5700.00	-18.4	V	3.0	35.5	1.0	-52.9	-13.0	-39.9	
7600.00	-14.0	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
3800.00	-20.0	H	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5700.00	-17.5	H	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7600.00	-15.6	H	3.0	35.8	1.0	-50.3	-13.0	-37.3	

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UL Verification Services, Inc.
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_16QAM Band 2 Harmonics, 15MHz Bandwidth

Band
LTE2
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-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	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5572.50	-15.8	H	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7430.00	-16.6	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
Mid Ch, 1880									
3760.00	-18.2	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5640.00	-17.7	V	3.0	35.5	1.0	-52.2	-13.0	-39.2	
7520.00	-12.5	V	3.0	35.7	1.0	-47.3	-13.0	-34.3	
3760.00	-20.6	H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5640.00	-18.2	H	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7520.00	-14.2	H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
High Ch, 1902.5									
3805.00	-20.5	V	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5707.50	-17.6	V	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7610.00	-13.3	V	3.0	35.8	1.0	-48.1	-13.0	-35.1	
3805.00	-20.5	H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5707.50	-17.9	H	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7610.00	-15.6	H	3.0	35.8	1.0	-50.4	-13.0	-37.4	

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UL Verification Services, Inc.
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 2 Harmonics, 15MHz Bandwidth

Band LTE2 15MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-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	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5572.50	-15.9	H	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7430.00	-16.3	H	3.0	35.7	1.0	-51.0	-13.0	-38.0	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5640.00	-18.6	H	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7520.00	-14.9	H	3.0	35.7	1.0	-49.6	-13.0	-36.6	
High Ch, 1902.5									
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	H	3.0	35.8	1.0	-54.9	-13.0	-41.9	
5707.50	-17.5	H	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7610.00	-15.9	H	3.0	35.8	1.0	-50.6	-13.0	-37.6	

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

Company: LG Electronics
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-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	H	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5565.00	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7420.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5640.00	-19.6	H	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7520.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1905									
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	H	3.0	35.8	1.0	-58.5	-13.0	-45.5	
5715.00	-20.0	H	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7620.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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Band

LTE2

10MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-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	H	3.0	35.9	1.0	-54.7	-13.0	-41.7	
5565.00	-21.0	H	3.0	35.5	1.0	-55.5	-13.0	-42.5	
7420.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5640.00	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7520.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1905									
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	H	3.0	35.8	1.0	-58.4	-13.0	-45.4	
5715.00	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7620.00	-16.0	H	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 #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-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	H	3.0	35.9	1.0	-58.5	-13.0	-45.5	
5557.50	-14.0	H	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7410.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5640.00	-18.8	H	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7520.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 1907.5									
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	H	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5722.50	-19.4	H	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7630.00	-16.3	H	3.0	35.8	1.0	-51.1	-13.0	-38.1	

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Band

LTE2

5MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-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	H	3.0	35.9	1.0	-58.1	-13.0	-45.1	
5557.50	-14.2	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7410.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5640.00	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7520.00	-16.9	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 1907.5									
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	H	3.0	35.8	1.0	-59.2	-13.0	-46.2	
5722.50	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7630.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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

Company: LG Electronics
Project #: 15I20286
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
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-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	H	3.0	35.9	1.0	-60.1	-13.0	-47.1	
5554.50	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7406.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-58.2	-13.0	-45.2	
5640.00	-20.8	H	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7520.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1908.5									
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	H	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5725.50	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7634.00	-16.5	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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Band

LTE2

3MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-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	H	3.0	35.9	1.0	-60.2	-13.0	-47.2	
5557.50	-20.9	H	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7410.00	-16.6	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5640.00	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7520.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1907.5									
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	H	3.0	35.8	1.0	-57.9	-13.0	-44.9	
5722.50	-19.4	H	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7630.00	-16.2	H	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 #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-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	H	3.0	35.9	1.0	-58.0	-13.0	-45.0	
5552.10	-20.0	H	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7402.80	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5640.00	-20.7	H	3.0	35.5	1.0	-55.2	-13.0	-42.2	
7520.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1909.3									
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	H	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5727.90	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7637.20	-15.3	H	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 #: 15I20286
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 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, 1850.7									
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	H	3.0	35.9	1.0	-58.7	-13.0	-45.7	
5552.10	-20.6	H	3.0	35.5	1.0	-55.1	-13.0	-42.1	
7402.80	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 1880									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5640.00	-20.2	H	3.0	35.5	1.0	-54.7	-13.0	-41.7	
7520.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1909.3									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5727.90	-19.6	H	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7637.20	-15.4	H	3.0	35.8	1.0	-50.2	-13.0	-37.2	

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LTE Band 4

Band

LTE4

20MHz

16QAM

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_16QAM Band 4 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720									
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	H	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5160.00	-18.3	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6880.00	-17.0	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-57.6	-13.0	-44.6	
5197.50	-18.4	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-17.0	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1745									
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	H	3.0	36.0	1.0	-56.6	-13.0	-43.6	
5235.00	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6980.00	-16.8	H	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 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, 1720									
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	H	3.0	36.0	1.0	-59.1	-13.0	-46.1	
5160.00	-18.3	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6880.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-57.6	-13.0	-44.6	
5197.50	-18.4	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1745									
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	H	3.0	36.0	1.0	-55.9	-13.0	-42.9	
5235.00	-19.3	H	3.0	35.4	1.0	-53.7	-13.0	-40.7	
6980.00	-17.0	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	

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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_16QAM Band 4 Harmonics, 15MHz Bandwidth

Band
LTE4
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5									
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	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
5152.50	-17.9	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
6870.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.5	-13.0	-45.5	
5197.50	-18.0	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6930.00	-17.0	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1747.5									
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	H	3.0	36.0	1.0	-46.0	-13.0	-33.0	
5242.50	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6990.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	

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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, 15MHz Bandwidth

Band
LTE4
15MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5									
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	H	3.0	36.1	1.0	-57.4	-13.0	-44.4	
5152.50	-18.0	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6870.00	-16.1	H	3.0	35.7	1.0	-50.7	-13.0	-37.7	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.9	-13.0	-45.9	
5197.50	-18.5	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1747.5									
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	H	3.0	36.0	1.0	-46.9	-13.0	-33.9	
5242.50	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
6990.00	-16.9	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	

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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_16QAM Band 4 Harmonics, 10MHz Bandwidth

Band LTE4 10MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715									
3430.00	-15.0	V	3.0	36.1	1.0	-50.1	-13.0	-37.1	-50.8
5145.00	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	-47.4
6860.00	-18.7	V	3.0	35.7	1.0	-53.3	-13.0	-40.3	-64.5
3430.00	-16.0	H	3.0	36.1	1.0	-51.0	-13.0	-38.0	-48.1
5145.00	-18.1	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	-54.6
6860.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	-63.9
Mid Ch, 1732.5									
3465.00	-18.8	V	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	H	3.0	36.0	1.0	-58.1	-13.0	-45.1	-39.0
5197.50	-18.6	H	3.0	35.4	1.0	-53.0	-13.0	-40.0	-52.4
6930.00	-16.6	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	-64.5
High Ch, 1750									
3500.00	-9.2	V	3.0	36.0	1.0	-44.2	-13.0	-31.2	-42.6
5250.00	-19.7	V	3.0	35.4	1.0	-54.1	-13.0	-41.1	-46.6
7000.00	-18.0	V	3.0	35.7	1.0	-52.7	-13.0	-39.7	-64.5
3500.00	-11.3	H	3.0	36.0	1.0	-46.3	-13.0	-33.3	-44.0
5250.00	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	-51.7
7000.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	-64.5

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Band

LTE4

10MHz

QPSK

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, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715									
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	H	3.0	36.1	1.0	-52.6	-13.0	-39.6	-44.2
5145.00	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	-54.1
6860.00	-16.9	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	-64.7
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.6	-13.0	-45.6	-40.3
5197.50	-18.3	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	-53.2
6930.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	-64.8
High Ch, 1750									
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	H	3.0	36.0	1.0	-47.1	-13.0	-34.1	-37.6
5250.00	-18.8	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	-49.2
7000.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	-64.6

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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_16QAM Band 4 Harmonics, 5MHz Bandwidth

Band
LTE4
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5									
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	H	3.0	36.1	1.0	-54.5	-13.0	-41.5	
5137.50	-18.1	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6850.00	-16.6	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.7	-13.0	-45.7	
5197.50	-18.7	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
6930.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1752.5									
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	H	3.0	36.0	1.0	-52.2	-13.0	-39.2	
5257.50	-19.3	H	3.0	35.4	1.0	-53.7	-13.0	-40.7	
7010.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	

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Band

LTE4

5MHz

QPSK

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, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5									
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	H	3.0	36.1	1.0	-54.4	-13.0	-41.4	
5137.50	-18.4	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6850.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.7	-13.0	-45.7	
5197.50	-18.0	H	3.0	35.4	1.0	-52.4	-13.0	-39.4	
6930.00	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
High Ch, 1752.5									
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	H	3.0	36.0	1.0	-53.1	-13.0	-40.1	
5257.50	-19.3	H	3.0	35.4	1.0	-53.7	-13.0	-40.7	
7010.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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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_16QAM Band 4 Harmonics, 3MHz Bandwidth

Band
LTE4
3MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5									
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	H	3.0	36.1	1.0	-59.1	-13.0	-46.1	
5134.50	-18.1	H	3.0	35.4	1.0	-52.5	-13.0	-39.5	
6846.00	-17.0	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.3	-13.0	-45.3	
5197.50	-18.4	H	3.0	35.4	1.0	-52.8	-13.0	-39.8	
6930.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 1753.5									
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	H	3.0	36.0	1.0	-50.5	-13.0	-37.5	
5260.50	-17.3	H	3.0	35.4	1.0	-51.8	-13.0	-38.8	
7014.00	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	

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Band

LTE4

3MHz

QPSK

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, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5									
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	H	3.0	36.1	1.0	-59.3	-13.0	-46.3	
5134.50	-18.2	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
6846.00	-17.0	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-58.1	-13.0	-45.1	
5197.50	-18.5	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1753.5									
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	H	3.0	36.0	1.0	-51.1	-13.0	-38.1	
5260.50	-18.8	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
7014.00	-16.9	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	

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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_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

Band
LTE4
1.4MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7									
3421.40	-18.3	V	3.0	36.1	1.0	-53.4	-13.0	-40.4	
5132.10	-18.7	V	3.0	35.4	1.0	-53.1	-13.0	-40.1	
6842.80	-18.5	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
3421.40	-18.9	H	3.0	36.1	1.0	-54.0	-13.0	-41.0	
5132.10	-17.4	H	3.0	35.4	1.0	-51.8	-13.0	-38.8	
6842.80	-17.2	H	3.0	35.7	1.0	-51.8	-13.0	-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	H	3.0	36.0	1.0	-56.9	-13.0	-43.9	
5197.50	-18.5	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
6930.00	-16.4	H	3.0	35.7	1.0	-51.1	-13.0	-38.1	
High Ch, 1754.3									
3508.60	-12.5	V	3.0	36.0	1.0	-47.5	-13.0	-34.5	
5262.90	-16.6	V	3.0	35.4	1.0	-51.1	-13.0	-38.1	
7017.20	-16.2	V	3.0	35.7	1.0	-50.9	-13.0	-37.9	
3508.60	-14.0	H	3.0	36.0	1.0	-49.0	-13.0	-36.0	
5262.90	-18.9	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
7017.20	-16.7	H	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, 1.4MHz Bandwidth

Band LTE4 1.4MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7									
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	H	3.0	36.1	1.0	-53.8	-13.0	-40.8	
5132.10	-17.8	H	3.0	35.4	1.0	-52.2	-13.0	-39.2	
6842.80	-16.8	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 1732.5									
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	H	3.0	36.0	1.0	-55.6	-13.0	-42.6	
5197.50	-18.4	H	3.0	35.4	1.0	-52.8	-13.0	-39.8	
6930.00	-17.0	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 1754.3									
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	H	3.0	36.0	1.0	-49.6	-13.0	-36.6	
5262.90	-18.8	H	3.0	35.4	1.0	-53.3	-13.0	-40.3	
7017.20	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	

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LTE Band 5

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

Company: LG Electronics
Project #: 15I20286
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 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829									
1658.00	-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	H	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2487.00	-19.3	H	3.0	36.4	1.0	-54.8	-13.0	-41.8	
3316.00	-22.4	H	3.0	36.2	1.0	-57.6	-13.0	-44.6	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2509.50	-21.2	H	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3346.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	
High Ch, 844									
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	H	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2532.00	-20.7	H	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3376.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	

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

Company: LG Electronics
Project #: 15I20286
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 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, 829									
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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2487.00	-18.4	H	3.0	36.4	1.0	-53.9	-13.0	-40.9	
3316.00	-21.8	H	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2509.50	-18.9	H	3.0	36.4	1.0	-54.3	-13.0	-41.3	
3346.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 844									
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	H	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2532.00	-19.5	H	3.0	36.4	1.0	-54.9	-13.0	-41.9	
3376.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: LG Electronics
Project #: 15I20286
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 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
1653.00	-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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2479.50	-16.3	H	3.0	36.4	1.0	-51.7	-13.0	-38.7	
3306.00	-22.2	H	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2509.50	-16.2	H	3.0	36.4	1.0	-51.6	-13.0	-38.6	
3346.00	-22.2	H	3.0	36.1	1.0	-57.3	-13.0	-44.3	
High Ch, 846.5									
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	H	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2539.50	-17.7	H	3.0	36.4	1.0	-53.1	-13.0	-40.1	
3386.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

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Band

LTE5

5MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
Date: 4/3/2015
Test Engineer: R.Z
Configuration: EUT/ AC Charger/ Headset
Location: Chamber G
Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
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	H	3.0	37.0	1.0	-63.8	-13.0	-50.8	
2479.50	-14.5	H	3.0	36.4	1.0	-49.9	-13.0	-36.9	
3306.00	-21.8	H	3.0	36.2	1.0	-56.9	-13.0	-43.9	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2509.50	-14.2	H	3.0	36.4	1.0	-49.6	-13.0	-36.6	
3346.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	
High Ch, 846.5									
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	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	
3386.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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Band

LTE5

3MHz

16QAM

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

Company: LG Electronics
Project #: 15I20286
Date: 4/3/2015
Test Engineer: R.Z
Configuration: EUT/ AC Charger/ Headset
Location: Chamber G
Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5									
1651.00	-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	H	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2476.50	-17.3	H	3.0	36.4	1.0	-52.7	-13.0	-39.7	
3302.00	-22.1	H	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-65.5	-13.0	-52.5	
2509.50	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3346.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 847.5									
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	H	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2542.50	-22.8	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3390.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

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Band

LTE5

3MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
Date: 4/3/2015
Test Engineer: R.Z
Configuration: EUT/ AC Charger/ Headset
Location: Chamber G
Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5									
1651.00	-24.9	V	3.0	37.0	1.0	-61.0	-13.0	-48.0	
2476.50	-15.0	V	3.0	36.4	1.0	-50.4	-13.0	-37.4	
3302.00	-21.7	V	3.0	36.2	1.0	-56.9	-13.0	-43.9	
1651.00	-26.6	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2476.50	-14.4	H	3.0	36.4	1.0	-49.8	-13.0	-36.8	
3302.00	-22.5	H	3.0	36.2	1.0	-57.7	-13.0	-44.7	
Mid Ch, 836.5									
1673.00	-26.4	V	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	H	3.0	37.0	1.0	-65.2	-13.0	-52.2	
2509.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3346.00	-20.8	H	3.0	36.1	1.0	-55.9	-13.0	-42.9	
High Ch, 847.5									
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	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2542.50	-20.2	H	3.0	36.4	1.0	-55.7	-13.0	-42.7	
3390.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

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

Company: LG Electronics
Project #: 15I20286
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 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-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	H	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2474.10	3.8	H	3.0	36.4	1.0	-31.7	-13.0	-18.7	
3298.80	-21.9	H	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2509.50	-17.5	H	3.0	36.4	1.0	-52.9	-13.0	-39.9	
3346.00	-20.7	H	3.0	36.1	1.0	-55.8	-13.0	-42.8	
High Ch, 848.3									
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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2544.90	-17.9	H	3.0	36.4	1.0	-53.3	-13.0	-40.3	
3393.20	-21.5	H	3.0	36.1	1.0	-56.6	-13.0	-43.6	

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

Company: LG Electronics
Project #: 15I20286
Date: 4/3/2015
Test Engineer: R.Z
Configuration: EUT/ AC Charger/ Headset
Location: Chamber G
Mode: LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth

Band LTE5 1.4MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-27.5	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	H	3.0	37.1	1.0	-62.1	-13.0	-49.1	
2474.10	5.9	H	3.0	36.4	1.0	-29.6	-13.0	-16.6	
3298.80	-21.7	H	3.0	36.2	1.0	-56.9	-13.0	-43.9	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2509.50	-0.6	H	3.0	36.4	1.0	-36.0	-13.0	-23.0	
3346.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 848.3									
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	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-5.6	H	3.0	36.4	1.0	-41.0	-13.0	-28.0	
3393.20	-21.1	H	3.0	36.1	1.0	-56.2	-13.0	-43.2	

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LTE Band 12

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

Company: LG
Project #: 15I20286
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	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE12	Low Ch,704									
	1408.00	-18.9	V	3.0	37.4	1.0	-55.3	-13.0	-42.3	
10MHz	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	
16QAM	1408.00	-13.6	H	3.0	37.4	1.0	-49.9	-13.0	-36.9	
	2112.00	-16.5	H	3.0	36.6	1.0	-52.1	-13.0	-39.1	
	2816.00	-23.1	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
	Mid Ch,707.5									
	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	H	3.0	37.3	1.0	-50.5	-13.0	-37.5	
	2122.50	-16.4	H	3.0	36.6	1.0	-52.0	-13.0	-39.0	
	2830.00	-4.1	H	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	H	3.0	37.3	1.0	-49.0	-13.0	-36.0	
	2133.00	-17.0	H	3.0	36.6	1.0	-52.5	-13.0	-39.5	
	2844.00	-24.1	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	

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

Company: LG
Project #: 15I20286
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

QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,704									
1408.00	-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	H	3.0	37.4	1.0	-50.8	-13.0	-37.8	
2112.00	-16.9	H	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2816.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
Mid Ch,707.5									
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	H	3.0	37.3	1.0	-49.8	-13.0	-36.8	
2122.50	-15.9	H	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2830.00	-23.9	H	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	H	3.0	37.3	1.0	-47.3	-13.0	-34.3	
2133.00	-16.0	H	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2844.00	-24.0	H	3.0	36.4	1.0	-59.4	-13.0	-46.4	

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

Company: LG
Project #: 15I20286
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

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, 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	H	3.0	37.4	1.0	-66.6	-13.0	-53.6	
2104.50	-15.9	H	3.0	36.6	1.0	-51.5	-13.0	-38.5	
2806.00	-24.3	H	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	H	3.0	37.3	1.0	-52.7	-13.0	-39.7	
2122.50	-11.9	H	3.0	36.6	1.0	-47.4	-13.0	-34.4	
2830.00	-22.3	H	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	H	3.0	37.3	1.0	-63.1	-13.0	-50.1	
2140.50	-17.0	H	3.0	36.6	1.0	-52.5	-13.0	-39.5	
2854.00	-24.0	H	3.0	36.4	1.0	-59.4	-13.0	-46.4	

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

Company: LG
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 701.50									
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	H	3.0	37.4	1.0	-50.7	-13.0	-37.7	
2104.50	-15.3	H	3.0	36.6	1.0	-50.9	-13.0	-37.9	
2806.00	-24.5	H	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	H	3.0	37.3	1.0	-51.3	-13.0	-38.3	
2122.50	-12.9	H	3.0	36.6	1.0	-48.5	-13.0	-35.5	
2830.00	-22.8	H	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	H	3.0	37.3	1.0	-59.2	-13.0	-46.2	
2140.50	-19.9	H	3.0	36.6	1.0	-55.4	-13.0	-42.4	
2854.00	-24.0	H	3.0	36.4	1.0	-59.4	-13.0	-46.4	

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

Company: LG
Project #: 15I20286
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

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, 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	H	3.0	37.4	1.0	-56.2	-13.0	-43.2	
2101.50	-22.6	H	3.0	36.6	1.0	-58.2	-13.0	-45.2	
2802.00	-23.5	H	3.0	36.4	1.0	-58.9	-13.0	-45.9	
Mid Ch, 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	H	3.0	37.3	1.0	-52.1	-13.0	-39.1	
2122.00	-12.8	H	3.0	36.6	1.0	-48.4	-13.0	-35.4	
2830.00	-22.4	H	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	H	3.0	37.3	1.0	-57.5	-13.0	-44.5	
2143.50	-16.6	H	3.0	36.6	1.0	-52.1	-13.0	-39.1	
2858.00	-22.5	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	

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

Company: LG
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 700.5									
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	H	3.0	37.4	1.0	-57.9	-13.0	-44.9	
2101.50	-21.5	H	3.0	36.6	1.0	-57.1	-13.0	-44.1	
2802.00	-21.0	H	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	H	3.0	37.3	1.0	-50.8	-13.0	-37.8	
2122.00	-12.4	H	3.0	36.6	1.0	-48.0	-13.0	-35.0	
2830.00	-20.8	H	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	H	3.0	37.3	1.0	-56.1	-13.0	-43.1	
2143.50	-17.8	H	3.0	36.6	1.0	-53.3	-13.0	-40.3	
2858.00	-22.5	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	

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

Company: LG
Project #: 15I20286
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

1.4MHz

16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 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	H	3.0	37.4	1.0	-51.6	-13.0	-38.6	
2099.10	-16.1	H	3.0	36.6	1.0	-51.7	-13.0	-38.7	
2798.80	-22.6	H	3.0	36.4	1.0	-58.0	-13.0	-45.0	
Mid Ch, 707.50									
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	H	3.0	37.3	1.0	-50.9	-13.0	-37.9	
2122.00	-10.4	H	3.0	36.6	1.0	-46.0	-13.0	-33.0	
2830.00	-23.0	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
High Ch, 715.3									
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	H	3.0	37.3	1.0	-53.0	-13.0	-40.0	
2145.90	-15.3	H	3.0	36.6	1.0	-50.8	-13.0	-37.8	
2861.20	-20.9	H	3.0	36.4	1.0	-56.3	-13.0	-43.3	

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

Company: LG
Project #: 15I20286
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	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 699.7									
LTE12	1399.40	-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	
1.4MH	1399.40	-13.6	H	3.0	37.4	1.0	-49.9	-13.0	-36.9	
z	2099.10	-15.6	H	3.0	36.6	1.0	-51.2	-13.0	-38.2	
	2798.80	-16.9	H	3.0	36.4	1.0	-52.3	-13.0	-39.3	
QPSK	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	H	3.0	37.3	1.0	-50.7	-13.0	-37.7	
	2122.00	-9.6	H	3.0	36.6	1.0	-45.2	-13.0	-32.2	
	2830.00	-22.4	H	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	H	3.0	37.3	1.0	-52.2	-13.0	-39.2	
	2145.90	-16.4	H	3.0	36.6	1.0	-51.9	-13.0	-38.9	
	2861.20	-22.7	H	3.0	36.4	1.0	-58.1	-13.0	-45.1	

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LTE Band 25

UL Verification Services, Inc.
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_16QAM Band 25 Harmonics, 20MHz Bandwidth

Band LTE25 20MHz 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-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	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5580.00	-15.4	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7440.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5647.50	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7530.00	-15.8	H	3.0	35.7	1.0	-50.6	-13.0	-37.6	
High Ch, 1905									
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	H	3.0	35.8	1.0	-55.2	-13.0	-42.2	
5715.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7620.00	-14.8	H	3.0	35.8	1.0	-49.6	-13.0	-36.6	

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Band

LTE25

20MHz

QPSK

UL Verification Services, Inc.
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 25 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-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	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5580.00	-16.2	H	3.0	35.5	1.0	-50.7	-13.0	-37.7	
7440.00	-16.5	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
5647.50	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7530.00	-15.9	H	3.0	35.7	1.0	-50.7	-13.0	-37.7	
High Ch, 1905									
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	H	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5715.00	-17.5	H	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7620.00	-15.6	H	3.0	35.8	1.0	-50.3	-13.0	-37.3	

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UL Verification Services, Inc.
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_16QAM Band 25 Harmonics, 15MHz Bandwidth

Band
LTE25
15MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-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	H	3.0	35.8	1.0	-55.6	-13.0	-42.6	
5572.50	-15.8	H	3.0	35.5	1.0	-50.3	-13.0	-37.3	
7430.00	-16.6	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-55.4	-13.0	-42.4	
5722.50	-18.2	H	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7630.00	-14.2	H	3.0	35.7	1.0	-49.0	-13.0	-36.0	
High Ch, 1907.5									
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	H	3.0	35.8	1.0	-55.3	-13.0	-42.3	
5722.50	-17.9	H	3.0	35.5	1.0	-52.4	-13.0	-39.4	
7630.00	-15.6	H	3.0	35.8	1.0	-50.4	-13.0	-37.4	

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UL Verification Services, Inc.
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 25 Harmonics, 15MHz Bandwidth

Band LTE25 15MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-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	H	3.0	35.8	1.0	-55.9	-13.0	-42.9	
5572.50	-15.9	H	3.0	35.5	1.0	-50.4	-13.0	-37.4	
7430.00	-16.3	H	3.0	35.7	1.0	-51.0	-13.0	-38.0	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-55.0	-13.0	-42.0	
5647.50	-18.6	H	3.0	35.5	1.0	-53.1	-13.0	-40.1	
7530.00	-14.9	H	3.0	35.7	1.0	-49.6	-13.0	-36.6	
High Ch, 1907.5									
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	H	3.0	35.8	1.0	-54.9	-13.0	-41.9	
5722.50	-17.5	H	3.0	35.5	1.0	-52.0	-13.0	-39.0	
7630.00	-15.9	H	3.0	35.8	1.0	-50.6	-13.0	-37.6	

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

Company: LG Electronics
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-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	H	3.0	35.9	1.0	-55.7	-13.0	-42.7	
5565.00	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7420.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5647.50	-19.6	H	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7530.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1910									
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	H	3.0	35.8	1.0	-58.5	-13.0	-45.5	
5730.00	-20.0	H	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7640.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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Band

LTE25

10MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-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	H	3.0	35.9	1.0	-54.7	-13.0	-41.7	
5565.00	-21.0	H	3.0	35.5	1.0	-55.5	-13.0	-42.5	
7420.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5647.50	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7530.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1910									
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	H	3.0	35.8	1.0	-58.4	-13.0	-45.4	
5730.00	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7640.00	-16.0	H	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 #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-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	H	3.0	35.9	1.0	-58.5	-13.0	-45.5	
5557.50	-14.0	H	3.0	35.5	1.0	-48.4	-13.0	-35.4	
7410.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5647.50	-18.8	H	3.0	35.5	1.0	-53.3	-13.0	-40.3	
7530.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	
High Ch, 1912.5									
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	H	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5737.50	-19.4	H	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7650.00	-16.3	H	3.0	35.8	1.0	-51.1	-13.0	-38.1	

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

Company: LG Electronics
Project #: 15I20286
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
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5									
3705.00	-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	H	3.0	35.9	1.0	-58.1	-13.0	-45.1	
5557.50	-14.2	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7410.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.5	-13.0	-46.5	
5647.50	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7530.00	-16.9	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	
High Ch, 1912.5									
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	H	3.0	35.8	1.0	-59.2	-13.0	-46.2	
5737.50	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7650.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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

Company: LG Electronics
Project #: 15I20286
Date: 3/13/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT/ AC Charger/ Headset
Location: Chamber C
Mode: LTE_16QAM Band 25 Harmonics, 3MHz Bandwidth

Band
LTE25
3MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-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	H	3.0	35.9	1.0	-60.1	-13.0	-47.1	
5554.50	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7406.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-58.2	-13.0	-45.2	
5647.50	-20.8	H	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7530.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1913.5									
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	H	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5740.50	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7654.00	-16.5	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	

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

Company: LG Electronics
Project #: 15I20286
Date: 3/13/2015
Test Engineer: O. Stoelting
Configuration: X-pos EUT/ AC Charger/ Headset
Location: Chamber C
Mode: LTE_QPSK Band 25 Harmonics, 3MHz Bandwidth

Band
LTE25
3MHz
QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-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	H	3.0	35.9	1.0	-60.2	-13.0	-47.2	
5554.50	-20.9	H	3.0	35.5	1.0	-55.3	-13.0	-42.3	
7406.00	-16.6	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-58.0	-13.0	-45.0	
5647.50	-20.9	H	3.0	35.5	1.0	-55.4	-13.0	-42.4	
7530.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1913.5									
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	H	3.0	35.8	1.0	-57.9	-13.0	-44.9	
5740.50	-19.4	H	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7654.00	-16.2	H	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 #: 15I20286
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
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-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	H	3.0	35.9	1.0	-58.0	-13.0	-45.0	
5552.10	-20.0	H	3.0	35.5	1.0	-54.5	-13.0	-41.5	
7402.80	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.7	-13.0	-46.7	
5647.50	-20.7	H	3.0	35.5	1.0	-55.2	-13.0	-42.2	
7530.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
High Ch, 1914.3									
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	H	3.0	35.8	1.0	-59.8	-13.0	-46.8	
5742.90	-19.8	H	3.0	35.5	1.0	-54.3	-13.0	-41.3	
7657.20	-15.3	H	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 #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-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	H	3.0	35.9	1.0	-58.7	-13.0	-45.7	
5552.10	-20.6	H	3.0	35.5	1.0	-55.1	-13.0	-42.1	
7402.80	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
Mid Ch, 1882.5									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5647.50	-20.2	H	3.0	35.5	1.0	-54.7	-13.0	-41.7	
7530.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
High Ch, 1914.3									
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	H	3.0	35.8	1.0	-59.3	-13.0	-46.3	
5742.90	-19.6	H	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7657.20	-15.4	H	3.0	35.8	1.0	-50.2	-13.0	-37.2	

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LTE Band 26

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

Company: LG Electronics
Project #: 15I20286
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 16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 831.5									
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	H	3.0	37.0	1.0	-62.4	-13.0	-49.4	
2494.50	-22.0	H	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3326.00	-22.0	H	3.0	36.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2509.50	-20.4	H	3.0	36.4	1.0	-55.8	-13.0	-42.8	
3346.00	-22.1	H	3.0	36.1	1.0	-57.2	-13.0	-44.2	
High Ch, 841.5									
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	H	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2524.50	-16.4	H	3.0	36.4	1.0	-51.8	-13.0	-38.8	
3366.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

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Band

LTE26

15MHz

QPSK

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

Company: LG Electronics
Project #: 15I20286
Date: 4/3/2015
Test Engineer: R.Z
Configuration: EUT/ AC Charger/ Headset
Location: Chamber G
Mode: LTE_QPSK Band 26 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 831.5									
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	H	3.0	37.0	1.0	-61.9	-13.0	-48.9	
2494.50	-19.8	H	3.0	36.4	1.0	-55.2	-13.0	-42.2	
3326.00	-21.8	H	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 836.5									
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	H	3.0	37.0	1.0	-63.2	-13.0	-50.2	
2509.50	-19.0	H	3.0	36.4	1.0	-54.4	-13.0	-41.4	
3346.00	-22.3	H	3.0	36.1	1.0	-57.4	-13.0	-44.4	
High Ch, 841.5									
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	H	3.0	37.0	1.0	-62.2	-13.0	-49.2	
2524.50	-14.3	H	3.0	36.4	1.0	-49.7	-13.0	-36.7	
3366.00	-21.6	H	3.0	36.1	1.0	-56.7	-13.0	-43.7	

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

Company: LG Electronics
Project #: 15I20286
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 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, 819									
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	H	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2457.00	-19.3	H	3.0	36.4	1.0	-54.8	-13.0	-41.8	
3276.00	-22.4	H	3.0	36.2	1.0	-57.6	-13.0	-44.6	
Mid Ch, 831.5									
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	H	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2494.50	-21.2	H	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, 844									
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	H	3.0	37.0	1.0	-62.8	-13.0	-49.8	
2532.00	-20.7	H	3.0	36.4	1.0	-56.1	-13.0	-43.1	
3376.00	-21.7	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	

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

Company: LG Electronics
Project #: 15I20286
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 819									
1638.00	-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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2457.00	-18.4	H	3.0	36.4	1.0	-53.9	-13.0	-40.9	
3276.00	-21.8	H	3.0	36.2	1.0	-57.0	-13.0	-44.0	
Mid Ch, 831.5									
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	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2494.50	-18.9	H	3.0	36.4	1.0	-54.3	-13.0	-41.3	
3326.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 844									
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	H	3.0	37.0	1.0	-63.5	-13.0	-50.5	
2532.00	-19.5	H	3.0	36.4	1.0	-54.9	-13.0	-41.9	
3376.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 816.5									
1633.00	-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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2449.50	-16.3	H	3.0	36.4	1.0	-51.7	-13.0	-38.7	
3266.00	-22.2	H	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	H	3.0	37.0	1.0	-63.7	-13.0	-50.7	
2494.50	-16.2	H	3.0	36.4	1.0	-51.6	-13.0	-38.6	
3326.00	-22.2	H	3.0	36.1	1.0	-57.3	-13.0	-44.3	
High Ch, 846.5									
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	H	3.0	37.0	1.0	-63.1	-13.0	-50.1	
2539.50	-17.7	H	3.0	36.4	1.0	-53.1	-13.0	-40.1	
3386.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

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

Company: LG Electronics
Project #: 15I20286
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 QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 816.5									
1633.00	-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	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									
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									
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	
3386.00	-21.8	H	3.0	36.1	1.0	-56.9	-13.0	-43.9	

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

Company: LG Electronics
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 815.5									
1631.00	-26.7	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	H	3.0	37.0	1.0	-64.3	-13.0	-51.3	
2446.50	-17.3	H	3.0	36.4	1.0	-52.7	-13.0	-39.7	
3262.00	-22.1	H	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 831.5									
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	H	3.0	37.0	1.0	-65.5	-13.0	-52.5	
2494.50	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3326.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	
High Ch, 847.5									
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	H	3.0	37.0	1.0	-63.0	-13.0	-50.0	
2542.50	-22.8	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3390.00	-21.9	H	3.0	36.1	1.0	-57.0	-13.0	-44.0	

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

Company: LG Electronics
Project #: 15I20286
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 QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 815.5									
1631.00	-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	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2446.50	-14.4	H	3.0	36.4	1.0	-49.8	-13.0	-36.8	
3262.00	-22.5	H	3.0	36.2	1.0	-57.7	-13.0	-44.7	
Mid Ch, 831.5									
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	H	3.0	37.0	1.0	-65.2	-13.0	-52.2	
2494.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3326.00	-20.8	H	3.0	36.1	1.0	-55.9	-13.0	-42.9	
High Ch, 847.5									
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	H	3.0	37.0	1.0	-63.4	-13.0	-50.4	
2542.50	-20.2	H	3.0	36.4	1.0	-55.7	-13.0	-42.7	
3390.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

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

Company: LG Electronics
Project #: 15I20286
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

16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 814.7									
1629.40	-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	H	3.0	37.1	1.0	-63.6	-13.0	-50.6	
2444.10	3.8	H	3.0	36.4	1.0	-31.7	-13.0	-18.7	
3258.80	-21.9	H	3.0	36.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 831.5									
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	H	3.0	37.0	1.0	-63.9	-13.0	-50.9	
2494.50	-17.5	H	3.0	36.4	1.0	-52.9	-13.0	-39.9	
3326.00	-20.7	H	3.0	36.1	1.0	-55.8	-13.0	-42.8	
High Ch, 848.3									
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	H	3.0	37.0	1.0	-64.1	-13.0	-51.1	
2544.90	-17.9	H	3.0	36.4	1.0	-53.3	-13.0	-40.3	
3393.20	-21.5	H	3.0	36.1	1.0	-56.6	-13.0	-43.6	

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

Company: LG Electronics
Project #: 15I20286
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 QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 814.7									
1629.40	-27.5	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	H	3.0	37.1	1.0	-62.1	-13.0	-49.1	
2444.10	5.9	H	3.0	36.4	1.0	-29.6	-13.0	-16.6	
3258.80	-21.7	H	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	H	3.0	37.0	1.0	-63.6	-13.0	-50.6	
2494.50	-0.6	H	3.0	36.4	1.0	-36.0	-13.0	-23.0	
3326.00	-22.0	H	3.0	36.1	1.0	-57.1	-13.0	-44.1	
High Ch, 848.3									
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	H	3.0	37.0	1.0	-62.7	-13.0	-49.7	
2544.90	-5.6	H	3.0	36.4	1.0	-41.0	-13.0	-28.0	
3393.20	-21.1	H	3.0	36.1	1.0	-56.2	-13.0	-43.2	

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LTE Band 41

Band

LTE41

20MHz

16QAM

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

Company: LG
Project #: 15I20286
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

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-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	H	3.0	35.5	1.0	-52.1	-25.0	-27.1	
7518.00	-0.6	H	3.0	35.7	1.0	-35.4	-25.0	-10.4	
10024.00	1.7	H	3.0	36.0	1.0	-33.3	-25.0	-8.3	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-47.7	-25.0	-22.7	
7779.00	-1.1	H	3.0	35.8	1.0	-35.9	-25.0	-10.9	
10372.00	-4.1	H	3.0	35.8	1.0	-38.9	-25.0	-13.9	
High Ch, 2680									
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	H	3.0	35.4	1.0	-51.5	-25.0	-26.5	
8040.00	3.5	H	3.0	35.8	1.0	-31.3	-25.0	-6.3	
10720.00	-7.3	H	3.0	35.7	1.0	-42.0	-25.0	-17.0	

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth

Band LTE41 20MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-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	H	3.0	35.5	1.0	-51.1	-25.0	-26.1	
7518.00	-4.4	H	3.0	35.7	1.0	-39.1	-25.0	-14.1	
10024.00	-4.4	H	3.0	36.0	1.0	-39.4	-25.0	-14.4	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-47.9	-25.0	-22.9	
7779.00	-1.4	H	3.0	35.8	1.0	-36.2	-25.0	-11.2	
10372.00	-5.6	H	3.0	35.8	1.0	-40.5	-25.0	-15.5	
High Ch, 2680									
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	H	3.0	35.4	1.0	-49.4	-25.0	-24.4	
8040.00	4.2	H	3.0	35.8	1.0	-30.6	-25.0	-5.6	
10720.00	-6.5	H	3.0	35.7	1.0	-41.2	-25.0	-16.2	

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

Company: LG
Project #: 15I20286
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
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, 2503.5									
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	H	3.0	35.5	1.0	-51.6	-25.0	-26.6	
7510.50	-6.1	H	3.0	35.7	1.0	-40.9	-25.0	-15.9	
10014.00	-2.6	H	3.0	36.0	1.0	-37.6	-25.0	-12.6	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-49.9	-25.0	-24.9	
7779.00	-3.8	H	3.0	35.8	1.0	-38.5	-25.0	-13.5	
10372.00	-7.4	H	3.0	35.8	1.0	-42.3	-25.0	-17.3	
High Ch, 2682.5									
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	H	3.0	35.4	1.0	-47.6	-25.0	-22.6	
8047.50	1.3	H	3.0	35.8	1.0	-33.5	-25.0	-8.5	
10730.00	-16.3	H	3.0	35.7	1.0	-51.0	-25.0	-26.0	

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Band

LTE41

15MHz

QPSK

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.5									
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	H	3.0	35.5	1.0	-52.4	-25.0	-27.4	
7510.50	-5.2	H	3.0	35.7	1.0	-39.9	-25.0	-14.9	
10014.00	-1.5	H	3.0	36.0	1.0	-36.5	-25.0	-11.5	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-50.3	-25.0	-25.3	
7779.00	-4.3	H	3.0	35.8	1.0	-39.1	-25.0	-14.1	
10372.00	-8.5	H	3.0	35.8	1.0	-43.3	-25.0	-18.3	
High Ch, 2682.5									
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	H	3.0	35.4	1.0	-47.3	-25.0	-22.3	
8047.50	1.2	H	3.0	35.8	1.0	-33.6	-25.0	-8.6	
10730.00	-16.4	H	3.0	35.7	1.0	-51.1	-25.0	-26.1	

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth

Band
LTE41
10MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501									
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	H	3.0	35.5	1.0	-51.9	-25.0	-26.9	
7503.00	0.6	H	3.0	35.7	1.0	-34.1	-25.0	-9.1	
10004.00	-10.3	H	3.0	36.0	1.0	-45.3	-25.0	-20.3	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-47.7	-25.0	-22.7	
7779.00	5.4	H	3.0	35.8	1.0	-29.4	-25.0	-4.4	
10372.00	-8.7	H	3.0	35.8	1.0	-43.6	-25.0	-18.6	
High Ch, 2685									
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	H	3.0	35.4	1.0	-46.6	-25.0	-21.6	
8055.00	-6.6	H	3.0	35.8	1.0	-41.4	-25.0	-16.4	
10740.00	-10.6	H	3.0	35.7	1.0	-45.3	-25.0	-20.3	

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth

Band LTE41 10MHz QPSK

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501									
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	H	3.0	35.5	1.0	-51.2	-25.0	-26.2	
7503.00	1.7	H	3.0	35.7	1.0	-33.1	-25.0	-8.1	
10004.00	-9.4	H	3.0	36.0	1.0	-44.4	-25.0	-19.4	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-48.0	-25.0	-23.0	
7779.00	5.2	H	3.0	35.8	1.0	-29.6	-25.0	-4.6	
10372.00	-10.3	H	3.0	35.8	1.0	-45.1	-25.0	-20.1	
High Ch, 2685									
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	H	3.0	35.4	1.0	-46.6	-25.0	-21.6	
8055.00	-6.9	H	3.0	35.8	1.0	-41.7	-25.0	-16.7	
10740.00	-11.2	H	3.0	38.0	1.0	-48.2	-25.0	-23.2	

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 5MHz Bandwidth

Band
LTE41
5MHz
16QAM

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.5									
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	H	3.0	35.5	1.0	-51.4	-25.0	-26.4	
7495.50	-0.7	H	3.0	35.7	1.0	-35.5	-25.0	-10.5	
9994.00	-6.7	H	3.0	36.0	1.0	-41.7	-25.0	-16.7	
Mid Ch, 2593									
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	H	3.0	35.4	1.0	-48.2	-25.0	-23.2	
7779.00	-6.6	H	3.0	35.8	1.0	-41.3	-25.0	-16.3	
10372.00	-14.3	H	3.0	35.8	1.0	-49.1	-25.0	-24.1	
High Ch, 2687.5									
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	H	3.0	35.4	1.0	-46.1	-25.0	-21.1	
8062.50	-3.8	H	3.0	35.8	1.0	-38.6	-25.0	-13.6	
10750.00	-11.7	H	3.0	35.7	1.0	-46.3	-25.0	-21.3	

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Band

LTE41

5MHz

QPSK

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

Company: LG
Project #: 15I20286
Date: 03/13/15
Test Engineer: O. Stoelting
Configuration: Z-pos EUT/AC Charger/Headset
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.5									
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	H	3.0	35.5	1.0	-51.4	-25.0	-26.4	
7495.50	-2.0	H	3.0	35.7	1.0	-36.8	-25.0	-11.8	
9994.00	-8.6	H	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	H	3.0	35.4	1.0	-47.8	-25.0	-22.8	
7779.00	-6.9	H	3.0	35.8	1.0	-41.7	-25.0	-16.7	
10372.00	-14.3	H	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	H	3.0	35.4	1.0	-45.5	-25.0	-20.5	
8062.50	-4.3	H	3.0	35.8	1.0	-39.1	-25.0	-14.1	
10750.00	-12.0	H	3.0	35.7	1.0	-46.6	-25.0	-21.6	

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