

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I20150								
Date:		3/12/2015								
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
Band	Low Ch, 825.5									
	1651.00	-2.3	V	3.0	37.0	1.0	-38.4	-13.0	-25.4	
	2476.50	-16.0	V	3.0	36.4	1.0	-51.4	-13.0	-38.4	
LTE5	3302.00	-20.6	V	3.0	36.2	1.0	-55.8	-13.0	-42.8	
	1651.00	-8.0	H	3.0	37.0	1.0	-44.1	-13.0	-31.1	
3MHz	2476.50	-19.3	H	3.0	36.4	1.0	-54.7	-13.0	-41.7	
	3302.00	-21.1	H	3.0	36.2	1.0	-56.3	-13.0	-43.3	
16QAM	Mid Ch, 836.5									
	1673.00	1.9	V	3.0	37.0	1.0	-34.1	-13.0	-21.1	
	2509.50	-17.0	V	3.0	36.4	1.0	-52.4	-13.0	-39.4	
	3346.00	-20.7	V	3.0	36.1	1.0	-55.8	-13.0	-42.8	
	1673.00	-9.0	H	3.0	37.0	1.0	-45.0	-13.0	-32.0	
	2509.50	-16.1	H	3.0	36.4	1.0	-51.5	-13.0	-38.5	
	3346.00	-20.0	H	3.0	36.1	1.0	-55.1	-13.0	-42.1	
	High Ch, 847.5									
	1695.00	3.4	V	3.0	37.0	1.0	-32.6	-13.0	-19.6	
	2542.50	-14.2	V	3.0	36.4	1.0	-49.7	-13.0	-36.7	
	3390.00	-19.5	V	3.0	36.1	1.0	-54.6	-13.0	-41.6	
	1695.00	-7.5	H	3.0	37.0	1.0	-43.5	-13.0	-30.5	
	2542.50	-16.1	H	3.0	36.4	1.0	-51.6	-13.0	-38.6	
	3390.00	-22.7	H	3.0	36.1	1.0	-57.8	-13.0	-44.8	

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I20150								
Date:		3/11/2015								
Test Engineer:		R.Z								
Configuration:		EUT/ AC Charger/ Headset								
Location:		Chamber G								
Mode:		LTE_16QAM Band 5 Harmonics, 1.4MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band	Low Ch, 824.7									
	1649.40	0.0	V	3.0	37.1	1.0	-36.0	-13.0	-23.0	
	2474.10	-10.8	V	3.0	36.4	1.0	-46.3	-13.0	-33.3	
LTE5	3298.80	-19.7	V	3.0	36.2	1.0	-54.9	-13.0	-41.9	
	1649.40	-7.2	H	3.0	37.1	1.0	-43.3	-13.0	-30.3	
1.4MHz	2474.10	-11.2	H	3.0	36.4	1.0	-46.7	-13.0	-33.7	
	3298.80	-21.0	H	3.0	36.2	1.0	-56.2	-13.0	-43.2	
16QAM	Mid Ch, 836.5									
	1673.00	2.8	V	3.0	37.0	1.0	-33.2	-13.0	-20.2	
	2509.50	-11.5	V	3.0	36.4	1.0	-46.9	-13.0	-33.9	
	3346.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
	1673.00	-8.0	H	3.0	37.0	1.0	-44.0	-13.0	-31.0	
	2509.50	-11.4	H	3.0	36.4	1.0	-46.8	-13.0	-33.8	
	3346.00	-20.9	H	3.0	36.1	1.0	-56.0	-13.0	-43.0	
	High Ch, 848.3									
	1696.60	4.2	V	3.0	37.0	1.0	-31.8	-13.0	-18.8	
	2544.90	-9.3	V	3.0	36.4	1.0	-44.7	-13.0	-31.7	
	3393.20	-21.1	V	3.0	36.1	1.0	-56.1	-13.0	-43.1	
	1696.60	-2.2	H	3.0	37.0	1.0	-38.1	-13.0	-25.1	
	2544.90	-6.9	H	3.0	36.4	1.0	-42.3	-13.0	-29.3	
	3393.20	-19.8	H	3.0	36.1	1.0	-54.9	-13.0	-41.9	

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I20150								
Date:		3/11/2015								
Test Engineer:		R.Z								
Configuration:		EUT/ AC Charger/ Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band	Low Ch, 824.7									
	1649.40	1.8	V	3.0	37.1	1.0	-34.3	-13.0	-21.3	
LTE5	2474.10	-11.1	V	3.0	36.4	1.0	-46.6	-13.0	-33.6	
	3298.80	-19.2	V	3.0	36.2	1.0	-54.4	-13.0	-41.4	
1.4MHz	1649.40	-9.3	H	3.0	37.1	1.0	-45.4	-13.0	-32.4	
	2474.10	-15.0	H	3.0	36.4	1.0	-50.5	-13.0	-37.5	
QPSK	3298.80	-20.2	H	3.0	36.2	1.0	-55.4	-13.0	-42.4	
	Mid Ch, 836.5									
	1673.00	3.7	V	3.0	37.0	1.0	-32.3	-13.0	-19.3	
	2509.50	-9.3	V	3.0	36.4	1.0	-44.7	-13.0	-31.7	
	3346.00	-20.4	V	3.0	36.1	1.0	-55.5	-13.0	-42.5	
	1673.00	-8.7	H	3.0	37.0	1.0	-44.7	-13.0	-31.7	
	2509.50	-9.9	H	3.0	36.4	1.0	-45.3	-13.0	-32.3	
	3346.00	-21.6	H	3.0	36.1	1.0	-56.7	-13.0	-43.7	
	High Ch, 848.3									
	1696.60	5.2	V	3.0	37.0	1.0	-30.8	-13.0	-17.8	
	2544.90	-7.3	V	3.0	36.4	1.0	-42.7	-13.0	-29.7	
	3393.20	-20.6	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
	1696.60	-2.9	H	3.0	37.0	1.0	-38.8	-13.0	-25.8	
	2544.90	-11.4	H	3.0	36.4	1.0	-46.8	-13.0	-33.8	
	3393.20	-20.3	H	3.0	36.1	1.0	-55.4	-13.0	-42.4	

LTE Band 4

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		LG							
Project #:		15I20150							
Date:		3/10/2015							
Test Engineer:		R.Z							
Configuration:		EUT , AC Adapter and Headset							
Location:		Chamber G							
Mode:		LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720									
Band LTE4 20MHz	3440.00	-12.7	V	3.0	36.0	1.0	-47.8	-13.0	-34.8
	5160.00	-3.0	V	3.0	35.4	1.0	-37.5	-13.0	-24.5
	6880.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4
	3440.00	-8.4	H	3.0	36.0	1.0	-43.4	-13.0	-30.4
	5160.00	-0.5	H	3.0	35.4	1.0	-34.9	-13.0	-21.9
	6880.00	-12.1	H	3.0	35.7	1.0	-46.8	-13.0	-33.8
16QAM	Mid Ch, 1732.5								
	3465.00	-11.7	V	3.0	36.0	1.0	-46.8	-13.0	-33.8
	5197.50	0.1	V	3.0	35.4	1.0	-34.3	-13.0	-21.3
	6930.00	-13.4	V	3.0	35.7	1.0	-48.0	-13.0	-35.0
	3465.00	-6.9	H	3.0	36.0	1.0	-41.9	-13.0	-28.9
	5197.50	2.4	H	3.0	35.4	1.0	-32.0	-13.0	-19.0
	High Ch, 1745								
	3490.00	-9.6	V	3.0	36.0	1.0	-44.6	-13.0	-31.6
	5235.00	-0.3	V	3.0	35.4	1.0	-34.7	-13.0	-21.7
	6980.00	-13.4	V	3.0	35.7	1.0	-48.1	-13.0	-35.1
	3490.00	-4.1	H	3.0	36.0	1.0	-39.1	-13.0	-26.1
	5235.00	1.5	H	3.0	35.4	1.0	-33.0	-13.0	-20.0
	6980.00	-11.6	H	3.0	35.7	1.0	-46.3	-13.0	-33.3

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company: Project #: Date: Test Engineer: Configuration: Location: Mode:	LG 15I20150 3/10/2015 R.Z EUT , AC Adapter and Headset Chamber G 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
Band	Low Ch, 1715									
	3430.00	-9.6	V	3.0	36.1	1.0	-44.7	-13.0	-31.7	
	5145.00	-0.5	V	3.0	35.4	1.0	-35.0	-13.0	-22.0	
LTE4	6860.00	-10.9	V	3.0	35.7	1.0	-45.5	-13.0	-32.5	
	3430.00	-10.2	H	3.0	36.1	1.0	-45.3	-13.0	-32.3	
10MHz	5145.00	-11.7	H	3.0	35.4	1.0	-46.2	-13.0	-33.2	
	6860.00	-12.7	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
QPSK	Mid Ch, 1732.5									
	3465.00	-10.4	V	3.0	36.0	1.0	-45.5	-13.0	-32.5	
	5197.50	-12.4	V	3.0	35.4	1.0	-46.8	-13.0	-33.8	
	6930.00	-16.1	V	3.0	35.7	1.0	-50.7	-13.0	-37.7	
	3465.00	-13.9	H	3.0	36.0	1.0	-48.9	-13.0	-35.9	
	5197.50	-11.8	H	3.0	35.4	1.0	-46.2	-13.0	-33.2	
	6930.00	-14.1	H	3.0	35.7	1.0	-48.8	-13.0	-35.8	
	High Ch, 1750									
	3500.00	-10.0	V	3.0	36.0	1.0	-45.0	-13.0	-32.0	
	5250.00	-2.6	V	3.0	35.4	1.0	-37.1	-13.0	-24.1	
	7000.00	-11.6	V	3.0	35.7	1.0	-46.3	-13.0	-33.3	
	3500.00	-9.3	H	3.0	36.0	1.0	-44.3	-13.0	-31.3	
	5250.00	2.9	H	3.0	35.4	1.0	-31.5	-13.0	-18.5	
	7000.00	-12.1	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG								
Project #:		15I20150								
Date:		3/10/2015								
Test Engineer:		R.Z								
Configuration:		EUT , AC Adapter and Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band	Low Ch, 1710.7									
	3421.40	-9.2	V	3.0	36.1	1.0	-44.3	-13.0	-31.3	
	5132.10	0.9	V	3.0	35.4	1.0	-33.5	-13.0	-20.5	
LTE4	6842.80	-13.2	V	3.0	35.7	1.0	-47.8	-13.0	-34.8	
	3421.40	-8.9	H	3.0	36.1	1.0	-44.0	-13.0	-31.0	
1.4MHz	5132.10	-1.4	H	3.0	35.4	1.0	-35.9	-13.0	-22.9	
	6842.80	-10.6	H	3.0	35.7	1.0	-45.2	-13.0	-32.2	
QPSK	Mid Ch, 1732.5									
	3465.00	-6.1	V	3.0	36.0	1.0	-41.1	-13.0	-28.1	
	5197.50	0.1	V	3.0	35.4	1.0	-34.4	-13.0	-21.4	
	6930.00	-10.6	V	3.0	35.7	1.0	-45.3	-13.0	-32.3	
	3465.00	-4.1	H	3.0	36.0	1.0	-39.2	-13.0	-26.2	
	5197.50	3.9	H	3.0	35.4	1.0	-30.5	-13.0	-17.5	
	6930.00	-11.1	H	3.0	35.7	1.0	-45.8	-13.0	-32.8	
	High Ch, 1754.3									
3508.60	-5.5	V	3.0	36.0	1.0	-40.5	-13.0	-27.5		
	5262.90	1.5	V	3.0	35.4	1.0	-33.0	-13.0	-20.0	
	7017.20	-12.4	V	3.0	35.7	1.0	-47.1	-13.0	-34.1	
	3508.60	-13.6	H	3.0	36.0	1.0	-48.6	-13.0	-35.6	
	5262.90	3.9	H	3.0	35.4	1.0	-30.5	-13.0	-17.5	
	7017.20	-11.4	H	3.0	35.7	1.0	-46.1	-13.0	-33.1	

LTE Band 2

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		LG Electronics							
Project #:		15I20150							
Date:		3/11/2015							
Test Engineer:		R.Z							
Configuration:		EUT/ AC Charger/ Headset							
Location:		Chamber G							
Mode:		LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
Band LTE2 20MHz 16QAM	3720.00	-17.8	V	3.0	35.8	1.0	-52.7	-13.0	-39.7
	5580.00	6.0	V	3.0	35.5	1.0	-28.5	-13.0	-15.5
	7440.00	-9.2	V	3.0	35.7	1.0	-44.0	-13.0	-31.0
	3720.00	-15.6	H	3.0	35.8	1.0	-50.4	-13.0	-37.4
	5580.00	6.8	H	3.0	35.5	1.0	-27.7	-13.0	-14.7
	7440.00	-9.0	H	3.0	35.7	1.0	-43.7	-13.0	-30.7
Mid Ch, 1880									
	3760.00	-18.4	V	3.0	35.8	1.0	-53.2	-13.0	-40.2
	5640.00	0.9	V	3.0	35.5	1.0	-33.6	-13.0	-20.6
	7520.00	-11.5	V	3.0	35.7	1.0	-46.3	-13.0	-33.3
	3760.00	-18.6	H	3.0	35.8	1.0	-53.4	-13.0	-40.4
	5640.00	5.4	H	3.0	35.5	1.0	-29.1	-13.0	-16.1
	7520.00	-8.7	H	3.0	35.7	1.0	-43.5	-13.0	-30.5
High Ch, 1900									
	3800.00	-16.8	V	3.0	35.8	1.0	-51.5	-13.0	-38.5
	5700.00	2.4	V	3.0	35.5	1.0	-32.1	-13.0	-19.1
	7600.00	-9.6	V	3.0	35.8	1.0	-44.4	-13.0	-31.4
	3800.00	-16.5	H	3.0	35.8	1.0	-51.3	-13.0	-38.3
	5700.00	5.8	H	3.0	35.5	1.0	-28.7	-13.0	-15.7
	7600.00	-9.2	H	3.0	35.8	1.0	-43.9	-13.0	-30.9

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Project #:		15I20150								
Date:		3/11/2015								
Test Engineer:		R.Z								
Configuration:		EUT/ AC Charger/ Headset								
Location:		Chamber G								
Mode:		LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band	Low Ch, 1857.5									
	3715.00	-17.3	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
	5572.50	2.5	V	3.0	35.5	1.0	-32.0	-13.0	-19.0	
LTE2	7430.00	-7.3	V	3.0	35.7	1.0	-42.1	-13.0	-29.1	
	3715.00	-15.9	H	3.0	35.8	1.0	-50.7	-13.0	-37.7	
	5572.50	3.0	H	3.0	35.5	1.0	-31.5	-13.0	-18.5	
15MHz	7430.00	-8.1	H	3.0	35.7	1.0	-42.8	-13.0	-29.8	
16QAM	Mid Ch, 1880									
	3760.00	-17.4	V	3.0	35.8	1.0	-52.3	-13.0	-39.3	
	5640.00	1.8	V	3.0	35.5	1.0	-32.7	-13.0	-19.7	
	7520.00	-13.7	V	3.0	35.7	1.0	-48.5	-13.0	-35.5	
	3760.00	-17.7	H	3.0	35.8	1.0	-52.5	-13.0	-39.5	
	5640.00	3.6	H	3.0	35.5	1.0	-30.9	-13.0	-17.9	
	7520.00	-8.6	H	3.0	35.7	1.0	-43.4	-13.0	-30.4	
	High Ch, 1902.5									
3805.00	-15.7	V	3.0	35.8	1.0	-50.5	-13.0	-37.5		
	5707.50	0.9	V	3.0	35.5	1.0	-33.6	-13.0	-20.6	
	7610.00	-8.8	V	3.0	35.8	1.0	-43.6	-13.0	-30.6	
	3805.00	-17.5	H	3.0	35.8	1.0	-52.3	-13.0	-39.3	
	5707.50	2.5	H	3.0	35.5	1.0	-32.0	-13.0	-19.0	
	7610.00	-8.2	H	3.0	35.8	1.0	-43.0	-13.0	-30.0	

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Test Engineer:		R.Z								
Configuration:		EUT/ AC Charger/ Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 2 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
Band	Low Ch, 1857.5									
	3715.00	-17.1	V	3.0	35.8	1.0	-52.0	-13.0	-39.0	
	5572.50	2.4	V	3.0	35.5	1.0	-32.1	-13.0	-19.1	
LTE2	7430.00	-7.5	V	3.0	35.7	1.0	-42.3	-13.0	-29.3	
	3715.00	-15.3	H	3.0	35.8	1.0	-50.1	-13.0	-37.1	
	5572.50	3.4	H	3.0	35.5	1.0	-31.1	-13.0	-18.1	
15MHz	7430.00	-8.2	H	3.0	35.7	1.0	-42.9	-13.0	-29.9	
QPSK	Mid Ch, 1880									
	3760.00	-16.9	V	3.0	35.8	1.0	-51.7	-13.0	-38.7	
	5640.00	2.2	V	3.0	35.5	1.0	-32.3	-13.0	-19.3	
	7520.00	-13.6	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
	3760.00	-17.3	H	3.0	35.8	1.0	-52.1	-13.0	-39.1	
	5640.00	3.5	H	3.0	35.5	1.0	-31.0	-13.0	-18.0	
	7520.00	-9.0	H	3.0	35.7	1.0	-43.8	-13.0	-30.8	
	High Ch, 1902.5									
3805.00	-15.6	V	3.0	35.8	1.0	-50.4	-13.0	-37.4		
	5707.50	0.6	V	3.0	35.5	1.0	-33.9	-13.0	-20.9	
	7610.00	-9.2	V	3.0	35.8	1.0	-44.0	-13.0	-31.0	
	3805.00	-17.3	H	3.0	35.8	1.0	-52.1	-13.0	-39.1	
	5707.50	2.7	H	3.0	35.5	1.0	-31.8	-13.0	-18.8	
	7610.00	-8.0	H	3.0	35.8	1.0	-42.8	-13.0	-29.8	

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

Company: LG Electronics
Project #: 15I20150
Date: 3/12/2015
Test Engineer: R.Z
Configuration: EUT , AC Adapter, Headset
Location: Chamber G
Mode: CDMA EVDO BC1 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-11.9	V	3.0	35.9	1.0	-46.8	-13.0	-33.8	
5553.75	-4.3	V	3.0	35.5	1.0	-38.8	-13.0	-25.8	
7405.00	-7.6	V	3.0	35.7	1.0	-42.4	-13.0	-29.4	
3702.50	-11.5	H	3.0	35.9	1.0	-46.4	-13.0	-33.4	
5553.75	0.5	H	3.0	35.5	1.0	-33.9	-13.0	-20.9	
7405.00	-7.8	H	3.0	35.7	1.0	-42.5	-13.0	-29.5	
Mid Ch, 1880									
3760.00	-16.9	V	3.0	35.8	1.0	-51.7	-13.0	-38.7	
5640.00	-2.9	V	3.0	35.5	1.0	-37.4	-13.0	-24.4	
7520.00	-11.2	V	3.0	35.7	1.0	-46.0	-13.0	-33.0	
3760.00	-17.0	H	3.0	35.8	1.0	-51.8	-13.0	-38.8	
5640.00	-0.6	H	3.0	35.5	1.0	-35.1	-13.0	-22.1	
7520.00	-10.7	H	3.0	35.7	1.0	-45.5	-13.0	-32.5	
High Ch, 1908.75									
3817.50	-16.2	V	3.0	35.8	1.0	-50.9	-13.0	-37.9	
5726.25	-4.7	V	3.0	35.5	1.0	-39.2	-13.0	-26.2	
7635.00	-7.2	V	3.0	35.8	1.0	-41.9	-13.0	-28.9	
3817.50	-15.8	H	3.0	35.8	1.0	-50.6	-13.0	-37.6	
5726.25	-3.0	H	3.0	35.5	1.0	-37.5	-13.0	-24.5	
7635.00	-6.9	H	3.0	35.8	1.0	-41.7	-13.0	-28.7	

