

Band LTE4 5MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/21/2015 Test Engineer: A. Escamilla Configuration: Y-Pos, EUT Only Location: Chamber C Mode: LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBi)</th> <th>EIRP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td colspan="9">Low Ch</td> </tr> <tr> <td>1712.50</td> <td>16.90</td> <td>V</td> <td>0.9</td> <td>8.2</td> <td>24.24</td> <td>30.0</td> <td>-5.8</td> <td></td> </tr> <tr> <td>1712.50</td> <td>14.96</td> <td>H</td> <td>0.9</td> <td>8.2</td> <td>22.30</td> <td>30.0</td> <td>-7.7</td> <td></td> </tr> <tr> <td colspan="9">Mid Ch</td> </tr> <tr> <td>1732.50</td> <td>16.32</td> <td>V</td> <td>0.9</td> <td>8.2</td> <td>23.59</td> <td>30.0</td> <td>-6.4</td> <td></td> </tr> <tr> <td>1732.50</td> <td>16.48</td> <td>H</td> <td>0.9</td> <td>8.2</td> <td>23.75</td> <td>30.0</td> <td>-6.2</td> <td></td> </tr> <tr> <td colspan="9">High Ch</td> </tr> <tr> <td>1752.50</td> <td>16.87</td> <td>V</td> <td>0.9</td> <td>8.1</td> <td>24.07</td> <td>30.0</td> <td>-5.9</td> <td></td> </tr> <tr> <td>1752.50</td> <td>18.54</td> <td>H</td> <td>0.9</td> <td>8.1</td> <td>25.74</td> <td>30.0</td> <td>-4.3</td> <td></td> </tr> <tr> <td colspan="9">0</td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									1712.50	16.90	V	0.9	8.2	24.24	30.0	-5.8		1712.50	14.96	H	0.9	8.2	22.30	30.0	-7.7		Mid Ch									1732.50	16.32	V	0.9	8.2	23.59	30.0	-6.4		1732.50	16.48	H	0.9	8.2	23.75	30.0	-6.2		High Ch									1752.50	16.87	V	0.9	8.1	24.07	30.0	-5.9		1752.50	18.54	H	0.9	8.1	25.74	30.0	-4.3		0								
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Band LTE4 5MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/21/2015 Test Engineer: A. Escamilla Configuration: Y-Pos, EUT Only Location: Chamber C Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1712.50	17.41	V	0.9	8.2	24.75	30.0	-5.2
	1712.50	15.53	H	0.9	8.2	22.87	30.0	-7.1
	Mid Ch							
	1732.50	16.82	V	0.9	8.2	24.09	30.0	-5.9
	1732.50	17.29	H	0.9	8.2	24.56	30.0	-5.4
	High Ch							
	1752.50	17.42	V	0.9	8.1	24.62	30.0	-5.4
	1752.50	19.18	H	0.9	8.1	26.38	30.0	-3.6

Band

LTE4

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I21237

Date: 7/21/2015

Test Engineer: A. Escamilla

Configuration: Y-Pos, EUT Only

Location: Chamber C

Mode: LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	16.45	V	0.9	8.2	23.80	30.0	-6.2	
1711.50	15.32	H	0.9	8.2	22.67	30.0	-7.3	
Mid Ch								
1732.50	17.29	V	0.9	8.2	24.56	30.0	-5.4	
1732.50	17.27	H	0.9	8.2	24.54	30.0	-5.5	
High Ch								
1753.50	15.58	V	0.9	8.1	22.77	30.0	-7.2	
1753.50	18.39	H	0.9	8.1	25.58	30.0	-4.4	

Band LTE4 3MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/21/2015 Test Engineer: A. Escamilla Configuration: Y-Pos, EUT Only Location: Chamber C Mode: LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">f MHz</th> <th style="text-align: center;">SG reading (dBm)</th> <th style="text-align: center;">Ant. Pol. (H/V)</th> <th style="text-align: center;">Cable Loss (dB)</th> <th style="text-align: center;">Antenna Gain (dBi)</th> <th style="text-align: center;">EIRP (dBm)</th> <th style="text-align: center;">Limit (dBm)</th> <th style="text-align: center;">Delta (dB)</th> <th style="text-align: center;">Notes</th> </tr> </thead> <tbody> <tr> <td colspan="9">Low Ch</td> </tr> <tr> <td style="text-align: center;">1711.50</td> <td style="text-align: center;">16.95</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.2</td> <td style="text-align: center;">24.30</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-5.7</td> <td></td> </tr> <tr> <td style="text-align: center;">1711.50</td> <td style="text-align: center;">15.80</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.2</td> <td style="text-align: center;">23.15</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-6.9</td> <td></td> </tr> <tr> <td colspan="9">Mid Ch</td> </tr> <tr> <td style="text-align: center;">1732.50</td> <td style="text-align: center;">17.78</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.2</td> <td style="text-align: center;">25.05</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-4.9</td> <td></td> </tr> <tr> <td style="text-align: center;">1732.50</td> <td style="text-align: center;">17.86</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.2</td> <td style="text-align: center;">25.13</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-4.9</td> <td></td> </tr> <tr> <td colspan="9">High Ch</td> </tr> <tr> <td style="text-align: center;">1753.50</td> <td style="text-align: center;">16.32</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.1</td> <td style="text-align: center;">23.51</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-6.5</td> <td></td> </tr> <tr> <td style="text-align: center;">1753.50</td> <td style="text-align: center;">19.05</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">8.1</td> <td style="text-align: center;">26.24</td> <td style="text-align: center;">30.0</td> <td style="text-align: center;">-3.8</td> <td></td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									1711.50	16.95	V	0.9	8.2	24.30	30.0	-5.7		1711.50	15.80	H	0.9	8.2	23.15	30.0	-6.9		Mid Ch									1732.50	17.78	V	0.9	8.2	25.05	30.0	-4.9		1732.50	17.86	H	0.9	8.2	25.13	30.0	-4.9		High Ch									1753.50	16.32	V	0.9	8.1	23.51	30.0	-6.5		1753.50	19.05	H	0.9	8.1	26.24	30.0	-3.8	
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Band

LTE4

1.4MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	16.66	V	0.9	8.3	24.01	30.0	-6.0	
1710.70	15.13	H	0.9	8.3	22.48	30.0	-7.5	
Mid Ch								
1732.50	16.58	V	0.9	8.2	23.85	30.0	-6.1	
1732.50	16.81	H	0.9	8.2	24.08	30.0	-5.9	
High Ch								
1754.30	16.55	V	0.9	8.1	23.74	30.0	-6.3	
1754.30	18.36	H	0.9	8.1	25.55	30.0	-4.4	

Band LTE4 1.4MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/21/2015 Test Engineer: A. Escamilla Configuration: Y-Pos, EUT Only Location: Chamber C Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1710.70	17.51	V	0.9	8.3	24.86	30.0	-5.1
	1710.70	15.94	H	0.9	8.3	23.29	30.0	-6.7
	Mid Ch							
	1732.50	17.14	V	0.9	8.2	24.41	30.0	-5.6
	1732.50	17.68	H	0.9	8.2	24.95	30.0	-5.0
	High Ch							
	1754.30	16.44	V	0.9	8.1	23.63	30.0	-6.4
	1754.30	19.23	H	0.9	8.1	26.42	30.0	-3.6

Band

LTE5

5MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	14.89	V	0.9	0.0	13.99	38.5	-24.5	
826.50	22.63	H	0.9	0.0	21.73	38.5	-16.8	
Mid Ch								
836.50	13.68	V	0.9	0.0	12.78	38.5	-25.7	
836.50	22.57	H	0.9	0.0	21.67	38.5	-16.8	
High Ch								
846.50	13.46	V	0.9	0.0	12.56	38.5	-25.9	
846.50	22.25	H	0.9	0.0	21.35	38.5	-17.2	

Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
825.50	15.03	V	0.9	0.0	14.13	38.5	-24.4	
825.50	22.73	H	0.9	0.0	21.83	38.5	-16.7	
Mid Ch								
836.50	13.84	V	0.9	0.0	12.94	38.5	-25.6	
836.50	22.60	H	0.9	0.0	21.70	38.5	-16.8	
High Ch								
847.50	13.50	V	0.9	0.0	12.60	38.5	-25.9	
847.50	22.18	H	0.9	0.0	21.28	38.5	-17.2	

Band

LTE5

3MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	15.50	V	0.9	0.0	14.60	38.5	-23.9	
825.50	23.11	H	0.9	0.0	22.21	38.5	-16.3	
Mid Ch								
836.50	14.14	V	0.9	0.0	13.24	38.5	-25.3	
836.50	23.03	H	0.9	0.0	22.13	38.5	-16.4	
High Ch								
847.50	13.77	V	0.9	0.0	12.87	38.5	-25.6	
847.50	22.54	H	0.9	0.0	21.64	38.5	-16.9	

Band

LTE5

1.4MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	15.08	V	0.9	0.0	14.18	38.5	-24.3	
824.70	23.04	H	0.9	0.0	22.14	38.5	-16.4	
Mid Ch								
836.50	13.76	V	0.9	0.0	12.86	38.5	-25.6	
836.50	22.55	H	0.9	0.0	21.65	38.5	-16.9	
High Ch								
848.30	13.32	V	0.9	0.0	12.42	38.5	-26.1	
848.30	22.00	H	0.9	0.0	21.10	38.5	-17.4	

LTE Band 7

Band LTE7 20MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc.																																																																																																
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	Project #: 15I21237																																																																																																
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	Test Engineer: A. Escamilla																																																																																																
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2510.00	11.17	H	0.9	9.5	19.75	33.0	-13.2																																																																																										
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2535.00	9.51	V	0.9	9.5	18.10	33.0	-14.9																																																																																										
2535.00	13.24	H	0.9	9.5	21.83	33.0	-11.2																																																																																										
High Ch																																																																																																	
2560.00	10.21	V	0.9	9.5	18.81	33.0	-14.2																																																																																										
2560.00	12.15	H	0.9	9.5	20.75	33.0	-12.3																																																																																										

Band LTE7 20MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/18/2015 Test Engineer: A. Escamilla Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 7 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, SMA Cable (SN # 506392) Warehouse <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">f MHz</th> <th style="text-align: center;">SG reading (dBm)</th> <th style="text-align: center;">Ant. Pol. (H/V)</th> <th style="text-align: center;">Cable Loss (dB)</th> <th style="text-align: center;">Antenna Gain (dBi)</th> <th style="text-align: center;">EIRP (dBm)</th> <th style="text-align: center;">Limit (dBm)</th> <th style="text-align: center;">Delta (dB)</th> <th style="text-align: center;">Notes</th> </tr> </thead> <tbody> <tr> <td colspan="9">Low Ch</td> </tr> <tr> <td style="text-align: center;">2510.00</td> <td style="text-align: center;">8.25</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">16.83</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-16.2</td> <td></td> </tr> <tr> <td style="text-align: center;">2510.00</td> <td style="text-align: center;">11.68</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">20.26</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-12.7</td> <td></td> </tr> <tr> <td colspan="9">Mid Ch</td> </tr> <tr> <td style="text-align: center;">2535.00</td> <td style="text-align: center;">10.36</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">18.95</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-14.1</td> <td></td> </tr> <tr> <td style="text-align: center;">2535.00</td> <td style="text-align: center;">13.67</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">22.26</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-10.7</td> <td></td> </tr> <tr> <td colspan="9">High Ch</td> </tr> <tr> <td style="text-align: center;">2560.00</td> <td style="text-align: center;">11.26</td> <td style="text-align: center;">V</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">19.86</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-13.1</td> <td></td> </tr> <tr> <td style="text-align: center;">2560.00</td> <td style="text-align: center;">13.29</td> <td style="text-align: center;">H</td> <td style="text-align: center;">0.9</td> <td style="text-align: center;">9.5</td> <td style="text-align: center;">21.89</td> <td style="text-align: center;">33.0</td> <td style="text-align: center;">-11.1</td> <td></td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									2510.00	8.25	V	0.9	9.5	16.83	33.0	-16.2		2510.00	11.68	H	0.9	9.5	20.26	33.0	-12.7		Mid Ch									2535.00	10.36	V	0.9	9.5	18.95	33.0	-14.1		2535.00	13.67	H	0.9	9.5	22.26	33.0	-10.7		High Ch									2560.00	11.26	V	0.9	9.5	19.86	33.0	-13.1		2560.00	13.29	H	0.9	9.5	21.89	33.0	-11.1	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																			
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2510.00	8.25	V	0.9	9.5	16.83	33.0	-16.2																																																																																				
2510.00	11.68	H	0.9	9.5	20.26	33.0	-12.7																																																																																				
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2560.00	11.26	V	0.9	9.5	19.86	33.0	-13.1																																																																																				
2560.00	13.29	H	0.9	9.5	21.89	33.0	-11.1																																																																																				

Band

LTE7

15MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I21237

Date: 7/18/2015

Test Engineer: A. Escamilla

Configuration: EUT Only

Location: Chamber C

Mode: LTE_16QAM Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	10.26	V	0.9	9.5	18.84	33.0	-14.2	
2507.50	12.08	H	0.9	9.5	20.66	33.0	-12.3	
Mid Ch								
2535.00	10.09	V	0.9	9.5	18.68	33.0	-14.3	
2535.00	12.11	H	0.9	9.5	20.70	33.0	-12.3	
High Ch	0.00							
2562.50	9.65	V	0.9	9.5	18.25	33.0	-14.8	
2562.50	12.57	H	0.9	9.5	21.17	33.0	-11.8	

Band

LTE7

15MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/18/2015

A. Escamilla

EUT Only

Chamber C

LTE_QPSK Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	11.19	V	0.9	9.5	19.77	33.0	-13.2	
2507.50	12.59	H	0.9	9.5	21.17	33.0	-11.8	
Mid Ch								
2535.00	10.40	V	0.9	9.5	18.99	33.0	-14.0	
2535.00	12.57	H	0.9	9.5	21.16	33.0	-11.8	
High Ch	0.00							
2562.50	10.43	V	0.9	9.5	19.03	33.0	-14.0	
2562.50	13.04	H	0.9	9.5	21.64	33.0	-11.4	

Band

LTE7

10MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2505.00	10.18	V	0.9	9.5	18.76	33.0	-14.2	
2505.00	13.00	H	0.9	9.5	21.58	33.0	-11.4	
Mid Ch								
2535.00	9.05	V	0.9	9.5	17.64	33.0	-15.4	
2535.00	12.26	H	0.9	9.5	20.85	33.0	-12.2	
High Ch								
2565.00	10.37	V	0.9	9.5	18.97	33.0	-14.0	
2565.00	13.06	H	0.9	9.5	21.66	33.0	-11.3	

LTE Band 17

Band LTE17 10MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/23/2015 Test Engineer: A. Escamilla Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 17 Fundamentals, 10MHz Bandwidth Test Equipment: Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBd)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td colspan="9">Low Ch</td></tr> <tr> <td>709.00</td><td>7.97</td><td>V</td><td>0.9</td><td>0.0</td><td>7.07</td><td>34.8</td><td>-27.7</td><td></td></tr> <tr> <td>709.00</td><td>17.80</td><td>H</td><td>0.9</td><td>0.0</td><td>16.90</td><td>34.8</td><td>-17.9</td><td></td></tr> <tr> <td colspan="9">Mid Ch</td></tr> <tr> <td>710.00</td><td>8.06</td><td>V</td><td>0.9</td><td>0.0</td><td>7.16</td><td>34.8</td><td>-27.6</td><td></td></tr> <tr> <td>710.00</td><td>17.79</td><td>H</td><td>0.9</td><td>0.0</td><td>16.89</td><td>34.8</td><td>-17.9</td><td></td></tr> <tr> <td colspan="9">High Ch</td></tr> <tr> <td>711.00</td><td>8.25</td><td>V</td><td>0.9</td><td>0.0</td><td>7.35</td><td>34.8</td><td>-27.4</td><td></td></tr> <tr> <td>711.00</td><td>18.03</td><td>H</td><td>0.9</td><td>0.0</td><td>17.13</td><td>34.8</td><td>-17.6</td><td></td></tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									709.00	7.97	V	0.9	0.0	7.07	34.8	-27.7		709.00	17.80	H	0.9	0.0	16.90	34.8	-17.9		Mid Ch									710.00	8.06	V	0.9	0.0	7.16	34.8	-27.6		710.00	17.79	H	0.9	0.0	16.89	34.8	-17.9		High Ch									711.00	8.25	V	0.9	0.0	7.35	34.8	-27.4		711.00	18.03	H	0.9	0.0	17.13	34.8	-17.6	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																			
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709.00	7.97	V	0.9	0.0	7.07	34.8	-27.7																																																																																				
709.00	17.80	H	0.9	0.0	16.90	34.8	-17.9																																																																																				
Mid Ch																																																																																											
710.00	8.06	V	0.9	0.0	7.16	34.8	-27.6																																																																																				
710.00	17.79	H	0.9	0.0	16.89	34.8	-17.9																																																																																				
High Ch																																																																																											
711.00	8.25	V	0.9	0.0	7.35	34.8	-27.4																																																																																				
711.00	18.03	H	0.9	0.0	17.13	34.8	-17.6																																																																																				

Band

LTE17

10MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	8.47	V	0.9	0.0	7.57	34.8	-27.2	
709.00	18.21	H	0.9	0.0	17.31	34.8	-17.5	
Mid Ch								
710.00	8.26	V	0.9	0.0	7.36	34.8	-27.4	
710.00	17.97	H	0.9	0.0	17.07	34.8	-17.7	
High Ch								
711.00	8.45	V	0.9	0.0	7.55	34.8	-27.2	
711.00	18.24	H	0.9	0.0	17.34	34.8	-17.4	

Band

LTE17

5MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I21237

Date: 7/23/2015

Test Engineer: A. Escamilla

Configuration: EUT Only

Location: Chamber C

Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	7.86	V	0.9	0.0	6.96	34.8	-27.8	
706.50	17.68	H	0.9	0.0	16.78	34.8	-18.0	
Mid Ch								
710.00	7.94	V	0.9	0.0	7.04	34.8	-27.7	
710.00	17.69	H	0.9	0.0	16.79	34.8	-18.0	
High Ch								
713.50	8.08	V	0.9	0.0	7.18	34.8	-27.6	
713.50	17.97	H	0.9	0.0	17.07	34.8	-17.7	

Band

LTE17

5MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	8.26	V	0.9	0.0	7.36	34.8	-27.4	
706.50	18.08	H	0.9	0.0	17.18	34.8	-17.6	
Mid Ch								
710.00	8.26	V	0.9	0.0	7.36	34.8	-27.4	
710.00	18.03	H	0.9	0.0	17.13	34.8	-17.6	
High Ch								
713.50	8.31	V	0.9	0.0	7.41	34.8	-27.4	
713.50	18.13	H	0.9	0.0	17.23	34.8	-17.5	

LTE Band 26

Band LTE26 15MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I21237 Date: 7/23/2015 Test Engineer: A. Escamilla Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 26 Fundamentals, 15MHz Bandwidth Test Equipment: Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBd)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Low Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>831.50</td> <td>14.48</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>13.58</td> <td>38.5</td> <td>-24.9</td> <td></td> </tr> <tr> <td>831.50</td> <td>22.59</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>21.69</td> <td>38.5</td> <td>-16.8</td> <td></td> </tr> <tr> <td>Mid Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>836.50</td> <td>13.21</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>12.31</td> <td>38.5</td> <td>-26.2</td> <td></td> </tr> <tr> <td>836.50</td> <td>22.56</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>21.66</td> <td>38.5</td> <td>-16.8</td> <td></td> </tr> <tr> <td>High Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>841.50</td> <td>13.52</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>12.62</td> <td>38.5</td> <td>-25.9</td> <td></td> </tr> <tr> <td>841.50</td> <td>23.01</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>22.11</td> <td>38.5</td> <td>-16.4</td> <td></td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									831.50	14.48	V	0.9	0.0	13.58	38.5	-24.9		831.50	22.59	H	0.9	0.0	21.69	38.5	-16.8		Mid Ch									836.50	13.21	V	0.9	0.0	12.31	38.5	-26.2		836.50	22.56	H	0.9	0.0	21.66	38.5	-16.8		High Ch									841.50	13.52	V	0.9	0.0	12.62	38.5	-25.9		841.50	23.01	H	0.9	0.0	22.11	38.5	-16.4	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																			
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831.50	14.48	V	0.9	0.0	13.58	38.5	-24.9																																																																																				
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841.50	13.52	V	0.9	0.0	12.62	38.5	-25.9																																																																																				
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Band

LTE26

15MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_QPSK Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
831.50	14.93	V	0.9	0.0	14.03	38.5	-24.5	
831.50	22.99	H	0.9	0.0	22.09	38.5	-16.4	
Mid Ch								
836.50	13.69	V	0.9	0.0	12.79	38.5	-25.7	
836.50	22.99	H	0.9	0.0	22.09	38.5	-16.4	
High Ch								
841.50	13.91	V	0.9	0.0	13.01	38.5	-25.5	
841.50	23.43	H	0.9	0.0	22.53	38.5	-16.0	

Band

LTE26

10MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	14.90	V	0.9	0.0	14.00	50.0	-36.0	
819.00	22.95	H	0.9	0.0	22.05	50.0	-28.0	
Mid Ch								
831.50	13.73	V	0.9	0.0	12.83	38.5	-25.7	
831.50	22.99	H	0.9	0.0	22.09	38.5	-16.4	
High Ch								
844.00	13.70	V	0.9	0.0	12.80	38.5	-25.7	
844.00	22.84	H	0.9	0.0	21.94	38.5	-16.6	

Band

LTE26

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_16QAM Band 26 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	15.03	V	0.9	0.0	14.13	50.0	-35.9	
815.50	22.73	H	0.9	0.0	21.83	50.0	-28.2	
Mid Ch								
831.50	13.84	V	0.9	0.0	12.94	38.5	-25.6	
831.50	22.60	H	0.9	0.0	21.70	38.5	-16.8	
High Ch								
847.50	13.50	V	0.9	0.0	12.60	38.5	-25.9	
847.50	22.18	H	0.9	0.0	21.28	38.5	-17.2	

Band

LTE26

3MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I21237

Date: 7/23/2015

Test Engineer: A. Escamilla

Configuration: EUT Only

Location: Chamber C

Mode: LTE_QPSK Band 26 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	15.50	V	0.9	0.0	14.60	50.0	-35.4	
815.50	23.11	H	0.9	0.0	22.21	50.0	-27.8	
Mid Ch								
831.50	14.14	V	0.9	0.0	13.24	38.5	-25.3	
831.50	23.03	H	0.9	0.0	22.13	38.5	-16.4	
High Ch								
847.50	13.77	V	0.9	0.0	12.87	38.5	-25.6	
847.50	22.54	H	0.9	0.0	21.64	38.5	-16.9	

Band

LTE26

1.4MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I21237
Date: 7/23/2015
Test Engineer: A. Escamilla
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equipment:
Receiving: Hybrid T185, and Chamber C SMA Cables
Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	15.08	V	0.9	0.0	14.18	50.0	-35.8	
814.70	23.04	H	0.9	0.0	22.14	50.0	-27.9	
Mid Ch								
831.50	13.76	V	0.9	0.0	12.86	38.5	-25.6	
831.50	22.55	H	0.9	0.0	21.65	38.5	-16.9	
High Ch								
848.30	13.32	V	0.9	0.0	12.42	38.5	-26.1	
848.30	22.00	H	0.9	0.0	21.10	38.5	-17.4	

Band

LTE26

1.4MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

7/23/2015

A. Escamilla

EUT Only

Chamber C

LTE_QPSK Band 26 Fundamentals, 1.4MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, 4ft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
814.70	15.52	V	0.9	0.0	14.62	50.0	-35.4	
814.70	22.65	H	0.9	0.0	21.75	50.0	-28.3	
Mid Ch								
831.50	14.06	V	0.9	0.0	13.16	38.5	-25.3	
831.50	22.74	H	0.9	0.0	21.84	38.5	-16.7	
High Ch								
848.30	13.73	V	0.9	0.0	12.83	38.5	-25.7	
848.30	22.49	H	0.9	0.0	21.59	38.5	-16.9	

LTE Band 41

Band LTE41 20MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc.																																																																																																	
	Company: LG																																																																																																	
	Project #: 15I21237																																																																																																	
	Date: 8/24/2015																																																																																																	
	Test Engineer: Charles Vergonio																																																																																																	
	Configuration: Y-Pos, EUT Only																																																																																																	
	Location: Chamber C																																																																																																	
	Mode: LTE_16QAM Band 41 Fundamentals, 20MHz Bandwidth																																																																																																	
	Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse																																																																																																	
	<table border="1"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBi)</th> <th>EIRP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Low Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2506.00</td> <td>8.17</td> <td>V</td> <td>0.9</td> <td>9.5</td> <td>16.75</td> <td>33.0</td> <td>-16.3</td> <td></td> </tr> <tr> <td>2506.00</td> <td>4.19</td> <td>H</td> <td>0.9</td> <td>9.5</td> <td>12.77</td> <td>33.0</td> <td>-20.2</td> <td></td> </tr> <tr> <td>Mid Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2593.00</td> <td>10.59</td> <td>V</td> <td>0.9</td> <td>9.5</td> <td>19.20</td> <td>33.0</td> <td>-13.8</td> <td></td> </tr> <tr> <td>2593.00</td> <td>6.55</td> <td>H</td> <td>0.9</td> <td>9.5</td> <td>15.15</td> <td>33.0</td> <td>-17.8</td> <td></td> </tr> <tr> <td>High Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2680.00</td> <td>9.16</td> <td>V</td> <td>0.9</td> <td>9.7</td> <td>17.99</td> <td>33.0</td> <td>-15.0</td> <td></td> </tr> <tr> <td>2680.00</td> <td>5.64</td> <td>H</td> <td>0.9</td> <td>9.7</td> <td>14.46</td> <td>33.0</td> <td>-18.5</td> <td></td> </tr> </tbody> </table>									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	8.17	V	0.9	9.5	16.75	33.0	-16.3		2506.00	4.19	H	0.9	9.5	12.77	33.0	-20.2		Mid Ch									2593.00	10.59	V	0.9	9.5	19.20	33.0	-13.8		2593.00	6.55	H	0.9	9.5	15.15	33.0	-17.8		High Ch									2680.00	9.16	V	0.9	9.7	17.99	33.0	-15.0		2680.00	5.64	H	0.9	9.7	14.46	33.0	-18.5
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
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2680.00	9.16	V	0.9	9.7	17.99	33.0	-15.0																																																																																											
2680.00	5.64	H	0.9	9.7	14.46	33.0	-18.5																																																																																											

Band

LTE41

15MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse

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	8.27	V	0.9	9.5	16.85	33.0	-16.2	
2503.50	4.54	H	0.9	9.5	13.12	33.0	-19.9	
Mid Ch								
2593.00	10.81	V	0.9	9.5	19.42	33.0	-13.6	
2593.00	6.91	H	0.9	9.5	15.51	33.0	-17.5	
High Ch								
2682.50	9.58	V	0.9	9.7	18.41	33.0	-14.6	
2682.50	5.64	H	0.9	9.7	14.47	33.0	-18.5	

Band LTE41 10MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc.																																																																																																	
	Company:		LG																																																																																															
	Project #:		15I21237																																																																																															
	Date:		8/24/2015																																																																																															
	Test Engineer:		Charles Vergonio																																																																																															
	Configuration:		Y-Pos, EUT Only																																																																																															
	Location:		Chamber C																																																																																															
	Mode:		LTE_16QAM Band 41 Fundamentals, 10MHz Bandwidth																																																																																															
	Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse																																																																																																	
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f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
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2501.00	9.07	V	0.9	9.5	17.65	33.0	-15.4																																																																																											
2501.00	4.92	H	0.9	9.5	13.50	33.0	-19.5																																																																																											
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2593.00	6.42	H	0.9	9.5	15.02	33.0	-18.0																																																																																											
High Ch																																																																																																		
2685.00	10.49	V	0.9	9.7	19.33	33.0	-13.7																																																																																											
2685.00	6.49	H	0.9	9.7	15.33	33.0	-17.7																																																																																											

Band

LTE41

5MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I21237

8/24/2015

Charles Vergonio

Y-Pos, EUT Only

Chamber C

LTE_16QAM Band 41 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution: Horn T59, Xft SMA Cable (SN # 506392) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	9.78	V	0.9	9.5	18.35	33.0	-14.6	
2498.50	5.85	H	0.9	9.5	14.42	33.0	-18.6	
Mid Ch								
2593.00	10.28	V	0.9	9.5	18.89	33.0	-14.1	
2593.00	6.34	H	0.9	9.5	14.94	33.0	-18.1	
High Ch								
2687.50	10.56	V	0.9	9.7	19.41	33.0	-13.6	
2687.50	6.55	H	0.9	9.7	15.39	33.0	-17.6	

11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

LIMIT

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

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

TEST PROCEDURE

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

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

MODES TESTED

GSM, WCDMA, and LTE

RESULTS

11.2.1. SPURIOUS RADIATION PLOTS

GSM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Project #: Date: Test Engineer: Configuration: Mode:	LG 15I21237 07/15/15 D. Mun EUT w/ AC Adaptor and HS EGPRS1900 Harm								
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber A		T34 8449B		Filter 1		Part 24			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz									
Band GSM 1900	3.700	-18.1	V	3.0	35.4	1.0	-52.5	-13.0	-39.5
	5.551	-16.3	V	3.0	34.7	1.0	-50.0	-13.0	-37.0
	7.401	-15.4	V	3.0	34.9	1.0	-49.3	-13.0	-36.3
EGPRS	3.700	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1
	5.551	-16.4	H	3.0	34.7	1.0	-50.1	-13.0	-37.1
	7.401	-14.0	H	3.0	34.9	1.0	-48.0	-13.0	-35.0
Mid Ch, 1880.0MHz									
	3.760	-18.8	V	3.0	35.3	1.0	-53.1	-13.0	-40.1
	5.640	-17.5	V	3.0	34.7	1.0	-51.2	-13.0	-38.2
	7.520	-15.8	V	3.0	34.9	1.0	-49.8	-13.0	-36.8
	3.760	-18.4	H	3.0	35.3	1.0	-52.8	-13.0	-39.8
	5.640	-16.0	H	3.0	34.7	1.0	-49.7	-13.0	-36.7
	7.520	-14.9	H	3.0	34.9	1.0	-48.9	-13.0	-35.9
High Ch, 1909.8MHz									
	3.820	-18.3	V	3.0	35.3	1.0	-52.6	-13.0	-39.6
	5.729	-16.3	V	3.0	34.7	1.0	-50.0	-13.0	-37.0
	7.639	-15.2	V	3.0	35.0	1.0	-49.2	-13.0	-36.2
	3.820	-18.6	H	3.0	35.3	1.0	-52.9	-13.0	-39.9
	5.729	-16.5	H	3.0	34.7	1.0	-50.2	-13.0	-37.2
	7.639	-13.1	H	3.0	35.0	1.0	-47.0	-13.0	-34.0
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Project #: Date: Test Engineer: Configuration: Mode:	LG 15I21237 07/15/15 D. Mun EUT w/ AC Adaptor and HS GPRS1900 Harm									
Chamber Pre-amplifier Filter Limit 5m Chamber A T34 8449B Filter 1 Part 24										
Band GSM 1900 GPRS	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz										
	3.700	-19.0	V	3.0	35.4	1.0	-53.4	-13.0	-40.4	
	5.551	-16.9	V	3.0	34.7	1.0	-50.7	-13.0	-37.7	
	7.401	-15.2	V	3.0	34.9	1.0	-49.1	-13.0	-36.1	
	3.700	-17.5	H	3.0	35.4	1.0	-51.9	-13.0	-38.9	
	5.551	-17.0	H	3.0	34.7	1.0	-50.7	-13.0	-37.7	
	7.401	-13.3	H	3.0	34.9	1.0	-47.2	-13.0	-34.2	
Mid Ch, 1880.0MHz										
	3.760	-19.5	V	3.0	35.3	1.0	-53.8	-13.0	-40.8	
	5.640	-17.8	V	3.0	34.7	1.0	-51.5	-13.0	-38.5	
	7.520	-16.7	V	3.0	34.9	1.0	-50.7	-13.0	-37.7	
	3.760	-18.8	H	3.0	35.3	1.0	-53.2	-13.0	-40.2	
	5.640	-16.2	H	3.0	34.7	1.0	-49.9	-13.0	-36.9	
	7.520	-15.2	H	3.0	34.9	1.0	-49.1	-13.0	-36.1	
High Ch, 1909.8MHz										
	3.820	-19.2	V	3.0	35.3	1.0	-53.5	-13.0	-40.5	
	5.729	-17.4	V	3.0	34.7	1.0	-51.1	-13.0	-38.1	
	7.639	-16.1	V	3.0	35.0	1.0	-50.0	-13.0	-37.0	
	3.820	-18.8	H	3.0	35.3	1.0	-53.1	-13.0	-40.1	
	5.729	-17.3	H	3.0	34.7	1.0	-51.1	-13.0	-38.1	
	7.639	-15.6	H	3.0	35.0	1.0	-49.6	-13.0	-36.6	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

WCDMA

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Project #: Date: Test Engineer: Configuration: Mode:		LG Electronics 15I21237 7/15/2015 D. Mun X-pos EUT w/ AC Adapter HSDPA B2							
Chamber		Pre-amplifier		Filter		Limit			
5m Chamber A		T34 8449B		Filter 1		Part 24			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
Band 2	3.705	-19.4	V	3.0	35.4	1.0	-53.8	-13.0	-40.8
	5.557	-17.9	V	3.0	34.7	1.0	-51.7	-13.0	-38.7
	7.410	-16.5	V	3.0	34.9	1.0	-50.4	-13.0	-37.4
HSDPA	3.705	-19.6	H	3.0	35.4	1.0	-54.0	-13.0	-41.0
	5.557	-19.0	H	3.0	34.7	1.0	-52.7	-13.0	-39.7
	7.410	-15.0	H	3.0	34.9	1.0	-48.9	-13.0	-35.9
Mid Ch, 1880MHz									
	3.760	-19.4	V	3.0	35.3	1.0	-53.7	-13.0	-40.7
	5.640	-18.0	V	3.0	34.7	1.0	-51.7	-13.0	-38.7
	7.520	-15.8	V	3.0	34.9	1.0	-49.7	-13.0	-36.7
	3.760	-19.9	H	3.0	35.3	1.0	-54.2	-13.0	-41.2
	5.640	-18.6	H	3.0	34.7	1.0	-52.3	-13.0	-39.3
	7.520	-13.9	H	3.0	34.9	1.0	-47.8	-13.0	-34.8
High Ch, 1907.6MHz									
	3.815	-19.6	V	3.0	35.3	1.0	-53.9	-13.0	-40.9
	5.723	-18.8	V	3.0	34.7	1.0	-52.5	-13.0	-39.5
	7.630	-16.1	V	3.0	34.9	1.0	-50.0	-13.0	-37.0
	3.815	-20.2	H	3.0	35.3	1.0	-54.5	-13.0	-41.5
	5.723	-18.8	H	3.0	34.7	1.0	-52.6	-13.0	-39.6
	7.630	-14.6	H	3.0	34.9	1.0	-48.6	-13.0	-35.6
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I21237								
Date:		7/15/2015								
Test Engineer:		D. Mun								
Configuration:		X-pos EUT w/ AC Adapter								
Mode:		Rel. 99 B2								
Chamber 5m Chamber A Pre-amplifier T34 8449B Filter Filter 1 Limit Part 24										
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band Band 2 REL99	Low Ch, 1852.4MHz									
	3.705	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
	5.557	-17.7	V	3.0	34.7	1.0	-51.5	-13.0	-38.5	
	7.410	-15.2	V	3.0	34.9	1.0	-49.1	-13.0	-36.1	
	3.705	-18.5	H	3.0	35.4	1.0	-52.9	-13.0	-39.9	
	5.557	-17.3	H	3.0	34.7	1.0	-51.0	-13.0	-38.0	
	7.410	-14.8	H	3.0	34.9	1.0	-48.7	-13.0	-35.7	
	Mid Ch, 1880MHz									
	3.760	-18.5	V	3.0	35.3	1.0	-52.8	-13.0	-39.8	
	5.640	-17.2	V	3.0	34.7	1.0	-50.9	-13.0	-37.9	
	7.520	-15.4	V	3.0	34.9	1.0	-49.3	-13.0	-36.3	
	3.760	-18.4	H	3.0	35.3	1.0	-52.8	-13.0	-39.8	
	5.640	-17.7	H	3.0	34.7	1.0	-51.4	-13.0	-38.4	
	7.520	-13.6	H	3.0	34.9	1.0	-47.5	-13.0	-34.5	
	High Ch, 1907.6MHz									
	3.815	-18.6	V	3.0	35.3	1.0	-52.9	-13.0	-39.9	
	5.723	-18.2	V	3.0	34.7	1.0	-52.0	-13.0	-39.0	
	7.630	-15.2	V	3.0	34.9	1.0	-49.2	-13.0	-36.2	
	3.815	-19.1	H	3.0	35.3	1.0	-53.3	-13.0	-40.3	
	5.723	-17.0	H	3.0	34.7	1.0	-50.7	-13.0	-37.7	
	7.630	-13.8	H	3.0	34.9	1.0	-47.7	-13.0	-34.7	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

Compliance Certification Services

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG Electronics

15I21237

7/16/2015

D. Mun

EUT w/ AC Charger + HS

Chamber A

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
Low Ch, 1857.5									
3715.00	-18.6	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
5572.50	-17.1	V	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7430.00	-16.0	V	3.0	35.7	1.0	-50.7	-13.0	-37.7	
3715.00	-18.2	H	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5572.50	-16.0	H	3.0	35.5	1.0	-50.5	-13.0	-37.5	
7430.00	-14.2	H	3.0	35.7	1.0	-48.9	-13.0	-35.9	
Mid Ch, 1880									
3760.00	-18.7	V	3.0	35.8	1.0	-53.5	-13.0	-40.5	
5640.00	-17.8	V	3.0	35.5	1.0	-52.3	-13.0	-39.3	
7520.00	-15.8	V	3.0	35.7	1.0	-50.6	-13.0	-37.6	
3760.00	-18.3	H	3.0	35.8	1.0	-53.1	-13.0	-40.1	
5640.00	-12.4	H	3.0	35.5	1.0	-46.9	-13.0	-33.9	
7520.00	-14.0	H	3.0	35.7	1.0	-48.8	-13.0	-35.8	
High Ch, 1902.5									
3805.00	-18.5	V	3.0	35.8	1.0	-53.3	-13.0	-40.3	
5707.50	-16.9	V	3.0	35.5	1.0	-51.4	-13.0	-38.4	
7610.00	-14.6	V	3.0	35.8	1.0	-49.4	-13.0	-36.4	
3805.00	-18.5	H	3.0	35.8	1.0	-53.3	-13.0	-40.3	
5707.50	-17.1	H	3.0	35.5	1.0	-51.6	-13.0	-38.6	
7610.00	-14.0	H	3.0	35.8	1.0	-48.8	-13.0	-35.8	

UL Verification Services, Inc.										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I21237								
Date:		7/15/2015								
Test Engineer:		D. Mun								
Configuration:		EUT w/ AC Charger + HS								
Location:		Chamber A								
Mode:		LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band	Low Ch, 1850.7									
	3701.40	-18.6	V	3.0	35.9	1.0	-53.4	-13.0	-40.4	
	5552.10	-14.2	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
LTE2	7402.80	-11.7	V	3.0	35.7	1.0	-46.4	-13.0	-33.4	
	3701.40	-17.8	H	3.0	35.9	1.0	-52.6	-13.0	-39.6	
1.4MHz	5552.10	-13.3	H	3.0	35.5	1.0	-47.7	-13.0	-34.7	
	7402.80	-10.7	H	3.0	35.7	1.0	-45.5	-13.0	-32.5	
16QAM	Mid Ch, 1880									
	3760.00	-17.8	V	3.0	35.8	1.0	-52.6	-13.0	-39.6	
	5640.00	-13.8	V	3.0	35.5	1.0	-48.2	-13.0	-35.2	
	7520.00	-12.5	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
	3760.00	-17.4	H	3.0	35.8	1.0	-52.2	-13.0	-39.2	
	5640.00	-13.4	H	3.0	35.5	1.0	-47.9	-13.0	-34.9	
	7520.00	-11.4	H	3.0	35.7	1.0	-46.2	-13.0	-33.2	
	High Ch, 1909.3									
	3818.60	-17.4	V	3.0	35.8	1.0	-52.2	-13.0	-39.2	
	5727.90	-13.4	V	3.0	35.5	1.0	-47.9	-13.0	-34.9	
	7637.20	-11.8	V	3.0	35.8	1.0	-46.5	-13.0	-33.5	
	3818.60	-18.0	H	3.0	35.8	1.0	-52.8	-13.0	-39.8	
	5727.90	-13.0	H	3.0	35.5	1.0	-47.5	-13.0	-34.5	
	7637.20	-12.1	H	3.0	35.8	1.0	-46.9	-13.0	-33.9	

LTE Band 4

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Project #: 15I21237 Date: 7/23/2015 Test Engineer: G. Escano Configuration: EUT + AC Adapter + HS 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	-15.8	V	3.0	36.0	1.0	-50.8	-13.0	-37.8	
5160.00	-14.6	V	3.0	35.4	1.0	-49.0	-13.0	-36.0	
6880.00	-12.5	V	3.0	35.7	1.0	-47.1	-13.0	-34.1	
3440.00	-10.4	H	3.0	36.0	1.0	-45.5	-13.0	-32.5	
5160.00	-13.7	H	3.0	35.4	1.0	-48.1	-13.0	-35.1	
6880.00	-12.1	H	3.0	35.7	1.0	-46.8	-13.0	-33.8	
Mid Ch, 1732.5									
3465.00	-18.1	V	3.0	36.0	1.0	-53.1	-13.0	-40.1	
5197.50	-14.1	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
6930.00	-14.9	V	3.0	35.7	1.0	-49.6	-13.0	-36.6	
3465.00	-6.6	H	3.0	36.0	1.0	-41.6	-13.0	-28.6	
5197.50	-13.7	H	3.0	35.4	1.0	-48.1	-13.0	-35.1	
6930.00	-13.6	H	3.0	35.7	1.0	-48.3	-13.0	-35.3	
High Ch, 1745									
3490.00	-16.6	V	3.0	36.0	1.0	-51.6	-13.0	-38.6	
5235.00	-15.7	V	3.0	35.4	1.0	-50.1	-13.0	-37.1	
6980.00	-13.7	V	3.0	35.7	1.0	-48.4	-13.0	-35.4	
3490.00	-7.8	H	3.0	36.0	1.0	-42.8	-13.0	-29.8	
5235.00	-14.1	H	3.0	35.4	1.0	-48.5	-13.0	-35.5	
6980.00	-12.6	H	3.0	35.7	1.0	-47.3	-13.0	-34.3	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Project #: 15I21237 Date: 7/23/2015 Test Engineer: G. Escano Configuration: EUT + AC Adapter + HS Location: Chamber A Mode: LTE_16QAM 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
Low Ch, 1710.7									
3421.40	-13.7	V	3.0	36.1	1.0	-48.8	-13.0	-35.8	
5132.10	-13.0	V	3.0	35.4	1.0	-47.4	-13.0	-34.4	
6842.80	-11.8	V	3.0	35.7	1.0	-46.4	-13.0	-33.4	
3421.40	-8.9	H	3.0	36.1	1.0	-44.0	-13.0	-31.0	
5132.10	-12.1	H	3.0	35.4	1.0	-46.5	-13.0	-33.5	
6842.80	-11.8	H	3.0	35.7	1.0	-46.4	-13.0	-33.4	
Mid Ch, 1732.5									
3465.00	-12.5	V	3.0	36.0	1.0	-47.6	-13.0	-34.6	
5197.50	-13.1	V	3.0	35.4	1.0	-47.5	-13.0	-34.5	
6930.00	-11.7	V	3.0	35.7	1.0	-46.4	-13.0	-33.4	
3465.00	-7.5	H	3.0	36.0	1.0	-42.5	-13.0	-29.5	
5197.50	-12.7	H	3.0	35.4	1.0	-47.1	-13.0	-34.1	
6930.00	-10.9	H	3.0	35.7	1.0	-45.6	-13.0	-32.6	
High Ch, 1754.3									
3508.60	-11.2	V	3.0	36.0	1.0	-46.2	-13.0	-33.2	
5262.90	-11.2	V	3.0	35.4	1.0	-45.6	-13.0	-32.6	
7017.20	-13.2	V	3.0	35.7	1.0	-47.9	-13.0	-34.9	
3508.60	-3.9	H	3.0	36.0	1.0	-38.9	-13.0	-25.9	
5262.90	-11.1	H	3.0	35.4	1.0	-45.5	-13.0	-32.5	
7017.20	-11.3	H	3.0	35.7	1.0	-46.0	-13.0	-33.0	

LTE Band 5

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I21237 Date: 7/16/2015 Test Engineer: D. Mun Configuration: EUT/ AC Charger/ Headset Location: Chamber A Mode: LTE_16QAM Band 5 Harmonics, 10MHz 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, 829									
1658.00	-33.8	V	3.0	37.0	1.0	-69.8	-13.0	-56.8	
2487.00	-27.7	V	3.0	36.4	1.0	-63.2	-13.0	-50.2	
3316.00	-24.9	V	3.0	36.2	1.0	-60.0	-13.0	-47.0	
1658.00	-35.1	H	3.0	37.0	1.0	-71.2	-13.0	-58.2	
2487.00	-29.4	H	3.0	36.4	1.0	-64.9	-13.0	-51.9	
3316.00	-25.3	H	3.0	36.2	1.0	-60.5	-13.0	-47.5	
Mid Ch, 836.5									
1673.00	-34.2	V	3.0	37.0	1.0	-70.2	-13.0	-57.2	
2509.50	-27.7	V	3.0	36.4	1.0	-63.1	-13.0	-50.1	
3346.00	-24.8	V	3.0	36.1	1.0	-60.0	-13.0	-47.0	
1673.00	-32.7	H	3.0	37.0	1.0	-68.7	-13.0	-55.7	
2509.50	-28.3	H	3.0	36.4	1.0	-63.8	-13.0	-50.8	
3346.00	-25.3	H	3.0	36.1	1.0	-60.4	-13.0	-47.4	
High Ch, 844									
1688.00	-33.5	V	3.0	37.0	1.0	-69.4	-13.0	-56.4	
2532.00	-27.6	V	3.0	36.4	1.0	-63.0	-13.0	-50.0	
3376.00	-25.9	V	3.0	36.1	1.0	-61.0	-13.0	-48.0	
1688.00	-33.1	H	3.0	37.0	1.0	-69.1	-13.0	-56.1	
2532.00	-29.1	H	3.0	36.4	1.0	-64.5	-13.0	-51.5	
3376.00	-25.8	H	3.0	36.1	1.0	-60.9	-13.0	-47.9	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I21237 Date: 7/16/2015 Test Engineer: D. Mun Configuration: EUT/ AC Charger/ Headset Location: Chamber A Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE5 10MHz QPSK	Low Ch, 829									
	1658.00	-33.8	V	3.0	37.0	1.0	-69.9	-13.0	-56.9	
	2487.00	-28.0	V	3.0	36.4	1.0	-63.4	-13.0	-50.4	
	3316.00	-25.2	V	3.0	36.2	1.0	-60.4	-13.0	-47.4	
	1658.00	-35.0	H	3.0	37.0	1.0	-71.0	-13.0	-58.0	
	2487.00	-29.2	H	3.0	36.4	1.0	-64.7	-13.0	-51.7	
	3316.00	-25.4	H	3.0	36.2	1.0	-60.6	-13.0	-47.6	
	Mid Ch, 836.5									
	1673.00	-34.3	V	3.0	37.0	1.0	-70.3	-13.0	-57.3	
	2509.50	-27.9	V	3.0	36.4	1.0	-63.3	-13.0	-50.3	
	3346.00	-25.7	V	3.0	36.1	1.0	-60.9	-13.0	-47.9	
	1673.00	-33.0	H	3.0	37.0	1.0	-69.0	-13.0	-56.0	
	2509.50	-28.1	H	3.0	36.4	1.0	-63.5	-13.0	-50.5	
	3346.00	-24.8	H	3.0	36.1	1.0	-60.0	-13.0	-47.0	
	High Ch, 844									
	1688.00	-33.6	V	3.0	37.0	1.0	-69.6	-13.0	-56.6	
	2532.00	-27.5	V	3.0	36.4	1.0	-62.9	-13.0	-49.9	
	3376.00	-25.4	V	3.0	36.1	1.0	-60.5	-13.0	-47.5	
	1688.00	-33.7	H	3.0	37.0	1.0	-69.7	-13.0	-56.7	
	2532.00	-29.4	H	3.0	36.4	1.0	-64.8	-13.0	-51.8	
	3376.00	-25.6	H	3.0	36.1	1.0	-60.7	-13.0	-47.7	

LTE Band 7

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Project #: 15I21237 Date: 7/18/2015 Test Engineer: A. Escamilla Configuration: EUT , AC Adapter, Headset Location: Chamber C Mode: LTE_16QAM Band 7 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, 2510									
5020.00	-15.1	V	3.0	35.5	1.0	-49.6	-25.0	-24.6	
7530.00	-12.0	V	3.0	35.7	1.0	-46.8	-25.0	-21.8	
10040.00	-11.0	V	3.0	36.0	1.0	-46.0	-25.0	-21.0	
5020.00	-15.3	H	3.0	35.5	1.0	-49.8	-25.0	-24.8	
7530.00	-13.5	H	3.0	35.7	1.0	-48.2	-25.0	-23.2	
10040.00	-9.7	H	3.0	36.0	1.0	-44.7	-25.0	-19.7	
Mid Ch, 2535									
5070.00	-15.5	V	3.0	35.4	1.0	-49.9	-25.0	-24.9	
7605.00	-12.8	V	3.0	35.8	1.0	-47.5	-25.0	-22.5	
10140.00	-10.5	V	3.0	36.0	1.0	-45.4	-25.0	-20.4	
5070.00	-13.9	H	3.0	35.4	1.0	-48.4	-25.0	-23.4	
7605.00	-12.7	H	3.0	35.8	1.0	-47.5	-25.0	-22.5	
10140.00	-9.6	H	3.0	36.0	1.0	-44.6	-25.0	-19.6	
High Ch, 2560									
5120.00	-14.8	V	3.0	35.4	1.0	-49.3	-25.0	-24.3	
7680.00	-13.0	V	3.0	35.8	1.0	-47.8	-25.0	-22.8	
10240.00	-11.2	V	3.0	35.9	1.0	-46.1	-25.0	-21.1	
5120.00	-13.3	H	3.0	35.4	1.0	-47.8	-25.0	-22.8	
7680.00	-10.9	H	3.0	35.8	1.0	-45.7	-25.0	-20.7	
10240.00	-9.8	H	3.0	35.9	1.0	-44.8	-25.0	-19.8	

LTE Band 17

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG								
Project #:		15I21237 (LG-H791)								
Date:		7/24/2015								
Test Engineer:		Jude Semana								
Configuration:		EUT + Charger + Headset								
Location:		Chamber A								
Mode:		LTE_16QAM Band 17 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
LTE17 10MHz 16QAM	Low Ch, 709									
	1418.00	-28.5	V	3.0	37.4	1.0	-64.9	-13.0	-51.9	
	2127.00	-20.6	V	3.0	36.6	1.0	-56.1	-13.0	-43.1	
	2836.00	-18.5	V	3.0	36.4	1.0	-53.9	-13.0	-40.9	
	1418.00	-27.5	H	3.0	37.4	1.0	-63.8	-13.0	-50.8	
	2127.00	-21.3	H	3.0	36.6	1.0	-56.9	-13.0	-43.9	
	2836.00	-18.9	H	3.0	36.4	1.0	-54.3	-13.0	-41.3	
	Mid Ch, 710									
	1420.00	-27.8	V	3.0	37.3	1.0	-64.1	-13.0	-51.1	
	2130.00	-20.2	V	3.0	36.6	1.0	-55.8	-13.0	-42.8	
	2840.00	-18.9	V	3.0	36.4	1.0	-54.3	-13.0	-41.3	
	1420.00	-27.9	H	3.0	37.3	1.0	-64.2	-13.0	-51.2	
	2130.00	-21.7	H	3.0	36.6	1.0	-57.2	-13.0	-44.2	
	2840.00	-19.5	H	3.0	36.4	1.0	-54.9	-13.0	-41.9	
	High Ch, 711									
	1422.00	-27.9	V	3.0	37.3	1.0	-64.3	-13.0	-51.3	
	2133.00	-19.9	V	3.0	36.6	1.0	-55.5	-13.0	-42.5	
	2844.00	-19.1	V	3.0	36.4	1.0	-54.5	-13.0	-41.5	
	1422.00	-27.7	H	3.0	37.3	1.0	-64.0	-13.0	-51.0	
	2133.00	-21.4	H	3.0	36.6	1.0	-57.0	-13.0	-44.0	
	2844.00	-18.9	H	3.0	36.4	1.0	-54.3	-13.0	-41.3	

UL Verification Services, Inc Above 1GHz High Frequency Substitution Measurement										
Company:		LG								
Project #:		15I21237 (LG-H791)								
Date:		7/24/2015								
Test Engineer:		Jude Semana								
Configuration:		EUT + Charger + Headset								
Location:		Chamber A								
Mode:		LTE_16QAM Band 17 Harmonics, 5MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 706.5									
LTE17	1413.00	-27.6	V	3.0	37.4	1.0	-64.0	-13.0	-51.0	
	2119.50	-20.7	V	3.0	36.6	1.0	-56.2	-13.0	-43.2	
	2826.00	-18.4	V	3.0	36.4	1.0	-53.8	-13.0	-40.8	
5MHz	1413.00	-28.2	H	3.0	37.4	1.0	-64.6	-13.0	-51.6	
	2119.50	-21.4	H	3.0	36.6	1.0	-56.9	-13.0	-43.9	
	2826.00	-18.9	H	3.0	36.4	1.0	-54.3	-13.0	-41.3	
16QAM	Mid Ch, 710									
	1420.00	-27.8	V	3.0	37.3	1.0	-64.1	-13.0	-51.1	
	2130.00	-20.8	V	3.0	36.6	1.0	-56.3	-13.0	-43.3	
	2840.00	-18.5	V	3.0	36.4	1.0	-53.8	-13.0	-40.8	
	1420.00	-27.7	H	3.0	37.3	1.0	-64.1	-13.0	-51.1	
	2130.00	-20.8	H	3.0	36.6	1.0	-56.4	-13.0	-43.4	
	2840.00	-19.1	H	3.0	36.4	1.0	-54.5	-13.0	-41.5	
	High Ch, 713.5									
	1427.00	-27.4	V	3.0	37.3	1.0	-63.7	-13.0	-50.7	
	2140.50	-18.4	V	3.0	36.6	1.0	-54.0	-13.0	-41.0	
	2854.00	-19.1	V	3.0	36.4	1.0	-54.4	-13.0	-41.4	
	1427.00	-27.8	H	3.0	37.3	1.0	-64.1	-13.0	-51.1	
	2140.50	-21.0	H	3.0	36.6	1.0	-56.6	-13.0	-43.6	
	2854.00	-19.5	H	3.0	36.4	1.0	-54.9	-13.0	-41.9	

LTE Band 41

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I21237 Date: 7/10/2015 Test Engineer: R.Alegre Configuration: EUT , AC Adapter, Headset Location: Chamber B Mode: LTE_16QAM Band 41 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, 2506									
5012.00	-16.4	V	3.0	35.5	1.0	-50.8	-25.0	-25.8	
7518.00	-13.1	V	3.0	35.7	1.0	-47.8	-25.0	-22.8	
10024.00	-12.0	V	3.0	36.0	1.0	-47.0	-25.0	-22.0	
5012.00	-15.3	H	3.0	35.5	1.0	-49.7	-25.0	-24.7	
7518.00	-13.3	H	3.0	35.7	1.0	-48.0	-25.0	-23.0	
10024.00	-10.5	H	3.0	36.0	1.0	-45.5	-25.0	-20.5	
Mid Ch, 2593									
5186.00	-15.7	V	3.0	35.4	1.0	-50.1	-25.0	-25.1	
7779.00	-13.0	V	3.0	35.8	1.0	-47.8	-25.0	-22.8	
10372.00	-11.0	V	3.0	35.8	1.0	-45.9	-25.0	-20.9	
5186.00	-14.5	H	3.0	35.4	1.0	-48.9	-25.0	-23.9	
7779.00	-11.4	H	3.0	35.8	1.0	-46.1	-25.0	-21.1	
10372.00	-10.2	H	3.0	35.8	1.0	-45.0	-25.0	-20.0	
High Ch, 2680									
5360.00	-17.0	V	3.0	35.4	1.0	-51.4	-25.0	-26.4	
8040.00	-13.0	V	3.0	35.8	1.0	-47.8	-25.0	-22.8	
10720.00	-9.9	V	3.0	35.7	1.0	-44.6	-25.0	-19.6	
5360.00	-16.3	H	3.0	35.4	1.0	-50.7	-25.0	-25.7	
8040.00	-11.6	H	3.0	35.8	1.0	-46.4	-25.0	-21.4	
10720.00	-10.5	H	3.0	35.7	1.0	-45.2	-25.0	-20.2	

