

LTE Band 2 3MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45574									
	Configuration: EUT / Adapter / Earphone, X-Position									
	Location: Chamber 3									
	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, 1851.5MHz									
	3703.00	-2.8	V	3.0	40.9	1.0	-42.6	-13.0	-29.6	
	5554.50	-5.6	V	3.0	40.1	1.0	-44.6	-13.0	-31.6	
	7406.00	-7.2	V	3.0	40.0	1.0	-46.2	-13.0	-33.2	
	3703.00	6.6	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
	5554.50	-5.6	H	3.0	40.1	1.0	-44.6	-13.0	-31.6	
	7406.00	-9.7	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
	Mid Ch, 1880MHz									
	3760.00	-2.1	V	3.0	40.8	1.0	-42.0	-13.0	-29.0	
	5640.00	-7.0	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
	7520.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
	3760.00	4.5	H	3.0	40.8	1.0	-35.4	-13.0	-22.4	
	5640.00	-7.9	H	3.0	40.0	1.0	-46.9	-13.0	-33.9	
7520.00	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2		
High Ch, 1908.5MHz										
3817.00	-4.1	V	3.0	40.8	1.0	-43.9	-13.0	-30.9		
5725.50	-8.2	V	3.0	40.0	1.0	-47.3	-13.0	-34.3		
7634.00	-6.7	V	3.0	40.0	1.0	-45.7	-13.0	-32.7		
3817.00	1.6	H	3.0	40.8	1.0	-38.2	-13.0	-25.2		
5725.50	-8.9	H	3.0	40.0	1.0	-47.9	-13.0	-34.9		
7634.00	-9.9	H	3.0	40.0	1.0	-48.9	-13.0	-35.9		
LTE Band 2 3MHz 16QAM	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45574									
	Configuration: EUT / Adapter / Earphone, X-Position									
	Location: Chamber 3									
	Mode: LTE_16QAM 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, 1851.5MHz									
	3703.00	-2.8	V	3.0	40.9	1.0	-42.7	-13.0	-29.7	
	5554.50	-5.9	V	3.0	40.1	1.0	-44.9	-13.0	-31.9	
	7406.00	-7.4	V	3.0	40.0	1.0	-46.5	-13.0	-33.5	
	3703.00	6.7	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
	5554.50	-5.7	H	3.0	40.1	1.0	-44.8	-13.0	-31.8	
	7406.00	-9.5	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
	Mid Ch, 1880MHz									
	3760.00	-2.5	V	3.0	40.8	1.0	-42.3	-13.0	-29.3	
	5640.00	-6.9	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
	7520.00	-8.3	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
	3760.00	4.6	H	3.0	40.8	1.0	-35.2	-13.0	-22.2	
	5640.00	-8.4	H	3.0	40.0	1.0	-47.4	-13.0	-34.4	
7520.00	-9.8	H	3.0	40.0	1.0	-48.9	-13.0	-35.9		
High Ch, 1908.5MHz										
3817.00	-3.6	V	3.0	40.8	1.0	-43.4	-13.0	-30.4		
5725.50	-8.3	V	3.0	40.0	1.0	-47.3	-13.0	-34.3		
7634.00	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1		
3817.00	1.4	H	3.0	40.8	1.0	-38.4	-13.0	-25.4		
5725.50	-9.2	H	3.0	40.0	1.0	-48.3	-13.0	-35.3		
7634.00	-9.8	H	3.0	40.0	1.0	-48.8	-13.0	-35.8		

LTE Band 2 1.4MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45574									
	Configuration: EUT / Adapter / Earphone, X-Position									
	Location: Chamber 3									
	Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.7MHz									
	3701.40	-3.1	V	3.0	40.9	1.0	-43.0	-13.0	-30.0	
	5552.10	-4.8	V	3.0	40.1	1.0	-43.9	-13.0	-30.9	
	7402.80	-6.4	V	3.0	40.0	1.0	-45.4	-13.0	-32.4	
	3701.40	6.7	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
	5552.10	-5.1	H	3.0	40.1	1.0	-44.1	-13.0	-31.1	
	7402.80	-9.2	H	3.0	40.0	1.0	-48.2	-13.0	-35.2	
	Mid Ch, 1880MHz									
	3760.00	-1.8	V	3.0	40.8	1.0	-41.6	-13.0	-28.6	
	5640.00	-6.2	V	3.0	40.0	1.0	-45.2	-13.0	-32.2	
	7520.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5	
	3760.00	4.7	H	3.0	40.8	1.0	-35.1	-13.0	-22.1	
	5640.00	-6.2	H	3.0	40.0	1.0	-45.3	-13.0	-32.3	
7520.00	-9.0	H	3.0	40.0	1.0	-48.1	-13.0	-35.1		
High Ch, 1909.3MHz										
3818.60	-4.2	V	3.0	40.8	1.0	-43.9	-13.0	-30.9		
5727.90	-6.8	V	3.0	40.0	1.0	-45.8	-13.0	-32.8		
7637.20	-6.9	V	3.0	40.0	1.0	-45.9	-13.0	-32.9		
3818.60	1.3	H	3.0	40.8	1.0	-38.5	-13.0	-25.5		
5727.90	-6.0	H	3.0	40.0	1.0	-45.0	-13.0	-32.0		
7637.20	-9.7	H	3.0	40.0	1.0	-48.7	-13.0	-35.7		
LTE Band 2 1.4MHz 16QAM	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45574									
	Configuration: EUT / Adapter / Earphone, X-Position									
	Location: Chamber 3									
	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
	Low Ch, 1850.7MHz									
	3701.40	-2.1	V	3.0	40.9	1.0	-42.0	-13.0	-29.0	
	5552.10	-4.7	V	3.0	40.1	1.0	-43.7	-13.0	-30.7	
	7402.80	-6.9	V	3.0	40.0	1.0	-45.9	-13.0	-32.9	
	3701.40	7.8	H	3.0	40.9	1.0	-32.1	-13.0	-19.1	
	5552.10	-5.2	H	3.0	40.1	1.0	-44.3	-13.0	-31.3	
	7402.80	-9.8	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
	Mid Ch, 1880MHz									
	3760.00	-2.1	V	3.0	40.8	1.0	-41.9	-13.0	-28.9	
	5640.00	-5.8	V	3.0	40.0	1.0	-44.9	-13.0	-31.9	
	7520.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
	3760.00	4.5	H	3.0	40.8	1.0	-35.3	-13.0	-22.3	
	5640.00	-6.8	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7520.00	-10.1	H	3.0	40.0	1.0	-49.2	-13.0	-36.2		
High Ch, 1909.3MHz										
3818.60	-4.7	V	3.0	40.8	1.0	-44.5	-13.0	-31.5		
5727.90	-7.4	V	3.0	40.0	1.0	-46.4	-13.0	-33.4		
7637.20	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1		
3818.60	1.3	H	3.0	40.8	1.0	-38.5	-13.0	-25.5		
5727.90	-8.0	H	3.0	40.0	1.0	-47.0	-13.0	-34.0		
7637.20	-9.3	H	3.0	40.0	1.0	-48.4	-13.0	-35.4		

LTE Band 12

LTE Band 12 10MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement																																																																																																																																																																																																																																				
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	Test Engineer: 45585																																																																																																																																																																																																																																				
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	Location: Chamber 3																																																																																																																																																																																																																																				
	Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth																																																																																																																																																																																																																																				
	<table><tr><th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance (m)</th><th>Preamp (dB)</th><th>Filter (dB)</th><th>EIRP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 704MHz</td></tr><tr><td>1408.00</td><td>-11.4</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-52.0</td><td>-13.0</td><td>-39.0</td><td></td></tr><tr><td>2112.00</td><td>-16.8</td><td>V</td><td>3.0</td><td>42.0</td><td>1.0</td><td>-57.8</td><td>-13.0</td><td>-44.8</td><td></td></tr><tr><td>2816.00</td><td>-17.0</td><td>V</td><td>3.0</td><td>41.5</td><td>1.0</td><td>-57.5</td><td>-13.0</td><td>-44.5</td><td></td></tr><tr><td>1408.00</td><td>-12.5</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-53.1</td><td>-13.0</td><td>-40.1</td><td></td></tr><tr><td>2112.00</td><td>-15.7</td><td>H</td><td>3.0</td><td>42.0</td><td>1.0</td><td>-56.6</td><td>-13.0</td><td>-43.6</td><td></td></tr><tr><td>2816.00</td><td>-17.3</td><td>H</td><td>3.0</td><td>41.5</td><td>1.0</td><td>-57.7</td><td>-13.0</td><td>-44.7</td><td></td></tr><tr><td colspan="10">Mid Ch, 707.5MHz</td></tr><tr><td>1415.00</td><td>-13.7</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-54.4</td><td>-13.0</td><td>-41.4</td><td></td></tr><tr><td>2122.50</td><td>-17.3</td><td>V</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-58.2</td><td>-13.0</td><td>-45.2</td><td></td></tr><tr><td>2830.00</td><td>-16.5</td><td>V</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.0</td><td>-13.0</td><td>-44.0</td><td></td></tr><tr><td>1415.00</td><td>-15.0</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-55.6</td><td>-13.0</td><td>-42.6</td><td></td></tr><tr><td>2122.50</td><td>-17.3</td><td>H</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-58.2</td><td>-13.0</td><td>-45.2</td><td></td></tr><tr><td>2830.00</td><td>-17.0</td><td>H</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.4</td><td>-13.0</td><td>-44.4</td><td></td></tr><tr><td colspan="10">High Ch, 711MHz</td></tr><tr><td>1422.00</td><td>-9.9</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-50.5</td><td>-13.0</td><td>-37.5</td><td></td></tr><tr><td>2133.00</td><td>-15.2</td><td>V</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-56.1</td><td>-13.0</td><td>-43.1</td><td></td></tr><tr><td>2844.00</td><td>-16.8</td><td>V</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.2</td><td>-13.0</td><td>-44.2</td><td></td></tr><tr><td>1422.00</td><td>-11.8</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-52.5</td><td>-13.0</td><td>-39.5</td><td></td></tr><tr><td>2133.00</td><td>-15.5</td><td>H</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-56.4</td><td>-13.0</td><td>-43.4</td><td></td></tr><tr><td>2844.00</td><td>-17.2</td><td>H</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.6</td><td>-13.0</td><td>-44.6</td><td></td></tr></table>										f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch, 704MHz										1408.00	-11.4	V	3.0	41.7	1.0	-52.0	-13.0	-39.0		2112.00	-16.8	V	3.0	42.0	1.0	-57.8	-13.0	-44.8		2816.00	-17.0	V	3.0	41.5	1.0	-57.5	-13.0	-44.5		1408.00	-12.5	H	3.0	41.7	1.0	-53.1	-13.0	-40.1		2112.00	-15.7	H	3.0	42.0	1.0	-56.6	-13.0	-43.6		2816.00	-17.3	H	3.0	41.5	1.0	-57.7	-13.0	-44.7		Mid Ch, 707.5MHz										1415.00	-13.7	V	3.0	41.7	1.0	-54.4	-13.0	-41.4		2122.50	-17.3	V	3.0	41.9	1.0	-58.2	-13.0	-45.2		2830.00	-16.5	V	3.0	41.4	1.0	-57.0	-13.0	-44.0		1415.00	-15.0	H	3.0	41.7	1.0	-55.6	-13.0	-42.6		2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2		2830.00	-17.0	H	3.0	41.4	1.0	-57.4	-13.0	-44.4		High Ch, 711MHz										1422.00	-9.9	V	3.0	41.7	1.0	-50.5	-13.0	-37.5		2133.00	-15.2	V	3.0	41.9	1.0	-56.1	-13.0	-43.1		2844.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2		1422.00	-11.8	H	3.0	41.7	1.0	-52.5	-13.0	-39.5		2133.00	-15.5	H	3.0	41.9	1.0	-56.4	-13.0	-43.4		2844.00	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6
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1415.00	-13.7	V	3.0	41.7	1.0	-54.4	-13.0	-41.4																																																																																																																																																																																																																													
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1415.00	-15.0	H	3.0	41.7	1.0	-55.6	-13.0	-42.6																																																																																																																																																																																																																													
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	Test Engineer: 45585																																																																																																																																																																																																																																				
	Configuration: EUT / Adapter / Earphone, Z-Position																																																																																																																																																																																																																																				
	Location: Chamber 3																																																																																																																																																																																																																																				
	Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth																																																																																																																																																																																																																																				
	<table><tr><th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Distance (m)</th><th>Preamp (dB)</th><th>Filter (dB)</th><th>EIRP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Ch, 704MHz</td></tr><tr><td>1408.00</td><td>-12.0</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-52.7</td><td>-13.0</td><td>-39.7</td><td></td></tr><tr><td>2112.00</td><td>-16.9</td><td>V</td><td>3.0</td><td>42.0</td><td>1.0</td><td>-57.9</td><td>-13.0</td><td>-44.9</td><td></td></tr><tr><td>2816.00</td><td>-17.1</td><td>V</td><td>3.0</td><td>41.5</td><td>1.0</td><td>-57.6</td><td>-13.0</td><td>-44.6</td><td></td></tr><tr><td>1408.00</td><td>-12.9</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-53.6</td><td>-13.0</td><td>-40.6</td><td></td></tr><tr><td>2112.00</td><td>-16.7</td><td>H</td><td>3.0</td><td>42.0</td><td>1.0</td><td>-57.7</td><td>-13.0</td><td>-44.7</td><td></td></tr><tr><td>2816.00</td><td>-17.2</td><td>H</td><td>3.0</td><td>41.5</td><td>1.0</td><td>-57.6</td><td>-13.0</td><td>-44.6</td><td></td></tr><tr><td colspan="10">Mid Ch, 707.5MHz</td></tr><tr><td>1415.00</td><td>-14.8</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-55.4</td><td>-13.0</td><td>-42.4</td><td></td></tr><tr><td>2122.50</td><td>-17.5</td><td>V</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-58.5</td><td>-13.0</td><td>-45.5</td><td></td></tr><tr><td>2830.00</td><td>-17.4</td><td>V</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.8</td><td>-13.0</td><td>-44.8</td><td></td></tr><tr><td>1415.00</td><td>-16.0</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-56.7</td><td>-13.0</td><td>-43.7</td><td></td></tr><tr><td>2122.50</td><td>-17.7</td><td>H</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-58.6</td><td>-13.0</td><td>-45.6</td><td></td></tr><tr><td>2830.00</td><td>-17.0</td><td>H</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.4</td><td>-13.0</td><td>-44.4</td><td></td></tr><tr><td colspan="10">High Ch, 711MHz</td></tr><tr><td>1422.00</td><td>-10.7</td><td>V</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-51.4</td><td>-13.0</td><td>-38.4</td><td></td></tr><tr><td>2133.00</td><td>-15.4</td><td>V</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-56.3</td><td>-13.0</td><td>-43.3</td><td></td></tr><tr><td>2844.00</td><td>-16.6</td><td>V</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.1</td><td>-13.0</td><td>-44.1</td><td></td></tr><tr><td>1422.00</td><td>-12.5</td><td>H</td><td>3.0</td><td>41.7</td><td>1.0</td><td>-53.2</td><td>-13.0</td><td>-40.2</td><td></td></tr><tr><td>2133.00</td><td>-15.3</td><td>H</td><td>3.0</td><td>41.9</td><td>1.0</td><td>-56.3</td><td>-13.0</td><td>-43.3</td><td></td></tr><tr><td>2844.00</td><td>-17.4</td><td>H</td><td>3.0</td><td>41.4</td><td>1.0</td><td>-57.8</td><td>-13.0</td><td>-44.8</td><td></td></tr></table>										f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch, 704MHz										1408.00	-12.0	V	3.0	41.7	1.0	-52.7	-13.0	-39.7		2112.00	-16.9	V	3.0	42.0	1.0	-57.9	-13.0	-44.9		2816.00	-17.1	V	3.0	41.5	1.0	-57.6	-13.0	-44.6		1408.00	-12.9	H	3.0	41.7	1.0	-53.6	-13.0	-40.6		2112.00	-16.7	H	3.0	42.0	1.0	-57.7	-13.0	-44.7		2816.00	-17.2	H	3.0	41.5	1.0	-57.6	-13.0	-44.6		Mid Ch, 707.5MHz										1415.00	-14.8	V	3.0	41.7	1.0	-55.4	-13.0	-42.4		2122.50	-17.5	V	3.0	41.9	1.0	-58.5	-13.0	-45.5		2830.00	-17.4	V	3.0	41.4	1.0	-57.8	-13.0	-44.8		1415.00	-16.0	H	3.0	41.7	1.0	-56.7	-13.0	-43.7		2122.50	-17.7	H	3.0	41.9	1.0	-58.6	-13.0	-45.6		2830.00	-17.0	H	3.0	41.4	1.0	-57.4	-13.0	-44.4		High Ch, 711MHz										1422.00	-10.7	V	3.0	41.7	1.0	-51.4	-13.0	-38.4		2133.00	-15.4	V	3.0	41.9	1.0	-56.3	-13.0	-43.3		2844.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1		1422.00	-12.5	H	3.0	41.7	1.0	-53.2	-13.0	-40.2		2133.00	-15.3	H	3.0	41.9	1.0	-56.3	-13.0	-43.3		2844.00	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																																																																																																																																																												
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2816.00	-17.1	V	3.0	41.5	1.0	-57.6	-13.0	-44.6																																																																																																																																																																																																																													
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Mid Ch, 707.5MHz																																																																																																																																																																																																																																					
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High Ch, 711MHz																																																																																																																																																																																																																																					
1422.00	-10.7	V	3.0	41.7	1.0	-51.4	-13.0	-38.4																																																																																																																																																																																																																													
2133.00	-15.4	V	3.0	41.9	1.0	-56.3	-13.0	-43.3																																																																																																																																																																																																																													
2844.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1																																																																																																																																																																																																																													
1422.00	-12.5	H	3.0	41.7	1.0	-53.2	-13.0	-40.2																																																																																																																																																																																																																													
2133.00	-15.3	H	3.0	41.9	1.0	-56.3	-13.0	-43.3																																																																																																																																																																																																																													
2844.00	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8																																																																																																																																																																																																																													

LTE Band 12 5MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45585									
	Configuration: EUT / Adapter / Earphone, Z-Position									
	Location: Chamber 3									
	Mode: LTE_QPSK Band 12 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, 701.5MHz									
	1403.00	-10.5	V	3.0	41.7	1.0	-51.2	-13.0	-38.2	
	2104.50	-14.3	V	3.0	42.0	1.0	-55.3	-13.0	-42.3	
	2806.00	-16.7	V	3.0	41.5	1.0	-57.2	-13.0	-44.2	
	1403.00	-21.2	H	3.0	41.7	1.0	-61.9	-13.0	-48.9	
	2104.50	-13.9	H	3.0	42.0	1.0	-54.8	-13.0	-41.8	
	2806.00	-16.9	H	3.0	41.5	1.0	-57.4	-13.0	-44.4	
	Mid Ch, 707.5MHz									
	1415.00	-13.7	V	3.0	41.7	1.0	-54.3	-13.0	-41.3	
	2122.50	-17.2	V	3.0	41.9	1.0	-58.2	-13.0	-45.2	
	2830.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
	1415.00	-14.5	H	3.0	41.7	1.0	-55.2	-13.0	-42.2	
	2122.50	-17.6	H	3.0	41.9	1.0	-58.5	-13.0	-45.5	
	2830.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
	High Ch, 713.5MHz									
1427.00	-10.5	V	3.0	41.7	1.0	-51.1	-13.0	-38.1		
2140.50	-16.0	V	3.0	41.9	1.0	-56.9	-13.0	-43.9		
2854.00	-17.0	V	3.0	41.4	1.0	-57.4	-13.0	-44.4		
1427.00	-11.9	H	3.0	41.7	1.0	-52.6	-13.0	-39.6		
2140.50	-15.9	H	3.0	41.9	1.0	-56.8	-13.0	-43.8		
2854.00	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6		
LTE Band 12 5MHz 16QAM	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45585									
	Configuration: EUT / Adapter / Earphone, Z-Position									
	Location: Chamber 3									
	Mode: LTE_16QAM Band 12 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, 701.5MHz									
	1403.00	-11.4	V	3.0	41.7	1.0	-52.1	-13.0	-39.1	
	2104.50	-14.4	V	3.0	42.0	1.0	-55.3	-13.0	-42.3	
	2806.00	-16.0	V	3.0	41.5	1.0	-56.5	-13.0	-43.5	
	1403.00	-12.1	H	3.0	41.7	1.0	-52.7	-13.0	-39.7	
	2104.50	-14.8	H	3.0	42.0	1.0	-55.7	-13.0	-42.7	
	2806.00	-16.5	H	3.0	41.5	1.0	-56.9	-13.0	-43.9	
	Mid Ch, 707.5MHz									
	1415.00	-13.3	V	3.0	41.7	1.0	-54.0	-13.0	-41.0	
	2122.50	-16.8	V	3.0	41.9	1.0	-57.8	-13.0	-44.8	
	2830.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1	
	1415.00	-15.3	H	3.0	41.7	1.0	-55.9	-13.0	-42.9	
	2122.50	-17.8	H	3.0	41.9	1.0	-58.8	-13.0	-45.8	
	2830.00	-16.9	H	3.0	41.4	1.0	-57.4	-13.0	-44.4	
	High Ch, 713.5MHz									
1427.00	-10.8	V	3.0	41.7	1.0	-51.5	-13.0	-38.5		
2140.50	-16.3	V	3.0	41.9	1.0	-57.2	-13.0	-44.2		
2854.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2		
1427.00	-11.7	H	3.0	41.7	1.0	-52.4	-13.0	-39.4		
2140.50	-16.2	H	3.0	41.9	1.0	-57.1	-13.0	-44.1		
2854.00	-16.7	H	3.0	41.4	1.0	-57.2	-13.0	-44.2		

LTE Band 12 3MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788397760									
	Date: 2018-04-04									
	Test Engineer: 45585									
	Configuration: EUT / Adapter / Earphone, Z-Position									
	Location: Chamber 3									
	Mode: LTE_QPSK Band 12 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, 700.5MHz									
	1401.00	-9.1	V	3.0	41.7	1.0	-49.7	-13.0	-36.7	
	2101.50	-14.1	V	3.0	42.0	1.0	-55.1	-13.0	-42.1	
	2802.00	-16.3	V	3.0	41.5	1.0	-56.8	-13.0	-43.8	
	1401.00	-10.4	H	3.0	41.7	1.0	-51.1	-13.0	-38.1	
	2101.50	-14.6	H	3.0	42.0	1.0	-55.5	-13.0	-42.5	
	2802.00	-17.3	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
	Mid Ch, 707.5MHz									
	1415.00	-13.5	V	3.0	41.7	1.0	-54.1	-13.0	-41.1	
	2122.50	-17.3	V	3.0	41.9	1.0	-58.3	-13.0	-45.3	
	2830.00	-16.3	V	3.0	41.4	1.0	-56.7	-13.0	-43.7	
	1415.00	-15.0	H	3.0	41.7	1.0	-55.6	-13.0	-42.6	
	2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2	
	2830.00	-16.6	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
	High Ch, 714.5MHz									
	1429.00	-13.4	V	3.0	41.7	1.0	-54.1	-13.0	-41.1	
	2143.50	-16.0	V	3.0	41.9	1.0	-56.9	-13.0	-43.9	
2858.00	-16.9	V	3.0	41.4	1.0	-57.3	-13.0	-44.3		
1429.00	-14.8	H	3.0	41.7	1.0	-55.4	-13.0	-42.4		
2143.50	-16.7	H	3.0	41.9	1.0	-57.6	-13.0	-44.6		
2858.00	-17.1	H	3.0	41.4	1.0	-57.5	-13.0	-44.5		

LTE Band 12 1.4MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4788397760 Date: 2018-04-04 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 12 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, 699.7MHz									
	1399.40	-14.4	V	3.0	41.7	1.0	-55.1	-13.0	-42.1	
	2099.10	-13.4	V	3.0	42.0	1.0	-54.4	-13.0	-41.4	
	2798.80	-16.4	V	3.0	41.5	1.0	-56.9	-13.0	-43.9	
	1399.40	-16.2	H	3.0	41.7	1.0	-56.9	-13.0	-43.9	
	2099.10	-14.1	H	3.0	42.0	1.0	-55.1	-13.0	-42.1	
	2798.80	-16.7	H	3.0	41.5	1.0	-57.2	-13.0	-44.2	
	Mid Ch, 707.5MHz									
	1415.00	-13.4	V	3.0	41.7	1.0	-54.0	-13.0	-41.0	
	2122.50	-17.1	V	3.0	41.9	1.0	-58.0	-13.0	-45.0	
	2830.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
	1415.00	-15.3	H	3.0	41.7	1.0	-56.0	-13.0	-43.0	
	2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2	
	2830.00	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8	
	High Ch, 715.3MHz									
	1430.60	-15.5	V	3.0	41.7	1.0	-56.2	-13.0	-43.2	
	2145.90	-16.5	V	3.0	41.9	1.0	-57.4	-13.0	-44.4	
	2861.20	-16.5	V	3.0	41.4	1.0	-56.9	-13.0	-43.9	
	1430.60	-17.3	H	3.0	41.7	1.0	-58.0	-13.0	-45.0	
	2145.90	-16.8	H	3.0	41.9	1.0	-57.8	-13.0	-44.8	
2861.20	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6		
LTE Band 12 1.4MHz 16QAM	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4788397760 Date: 2018-04-04 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 12 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, 699.7MHz									
	1399.40	-14.5	V	3.0	41.7	1.0	-55.1	-13.0	-42.1	
	2099.10	-13.4	V	3.0	42.0	1.0	-54.4	-13.0	-41.4	
	2798.80	-16.5	V	3.0	41.5	1.0	-57.0	-13.0	-44.0	
	1399.40	-17.1	H	3.0	41.7	1.0	-57.8	-13.0	-44.8	
	2099.10	-13.6	H	3.0	42.0	1.0	-54.6	-13.0	-41.6	
	2798.80	-17.2	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
	Mid Ch, 707.5MHz									
	1415.00	-14.6	V	3.0	41.7	1.0	-55.3	-13.0	-42.3	
	2122.50	-16.9	V	3.0	41.9	1.0	-57.8	-13.0	-44.8	
	2830.00	-16.2	V	3.0	41.4	1.0	-56.7	-13.0	-43.7	
	1415.00	-16.1	H	3.0	41.7	1.0	-56.8	-13.0	-43.8	
	2122.50	-17.8	H	3.0	41.9	1.0	-58.8	-13.0	-45.8	
	2830.00	-17.2	H	3.0	41.4	1.0	-57.7	-13.0	-44.7	
	High Ch, 715.3MHz									
	1430.60	-17.3	V	3.0	41.7	1.0	-58.0	-13.0	-45.0	
	2145.90	-16.3	V	3.0	41.9	1.0	-57.2	-13.0	-44.2	
	2861.20	-16.9	V	3.0	41.4	1.0	-57.3	-13.0	-44.3	
	1430.60	-17.7	H	3.0	41.7	1.0	-58.4	-13.0	-45.4	
	2145.90	-16.0	H	3.0	41.9	1.0	-56.9	-13.0	-43.9	
2861.20	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8		