

LTE Band 66 5MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / X-Position Location: Chamber 1 Mode: LTE_QPSK Band 66 Fundamentals, 5MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1712.50	8.18	V	4.3	9.5	13.33	30.0	-16.7	
	1712.50	15.28	H	4.3	9.5	20.43	30.0	-9.6	
	Mid Ch								
	1745.00	6.83	V	4.4	9.6	12.05	30.0	-17.9	
	1745.00	13.99	H	4.4	9.6	19.21	30.0	-10.8	
High Ch									
1777.50	9.24	V	4.4	9.6	14.47	30.0	-15.5		
1777.50	14.24	H	4.4	9.6	19.48	30.0	-10.5		
LTE Band 66 5MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / X-Position Location: Chamber 1 Mode: LTE_16QAM Band 66 Fundamentals, 5MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1712.50	7.21	V	4.3	9.5	12.36	30.0	-17.6	
	1712.50	14.21	H	4.3	9.5	19.36	30.0	-10.6	
	Mid Ch								
	1745.00	5.85	V	4.4	9.6	11.07	30.0	-18.9	
	1745.00	13.04	H	4.4	9.6	18.26	30.0	-11.7	
High Ch									
1777.50	8.25	V	4.4	9.6	13.48	30.0	-16.5		
1777.50	13.34	H	4.4	9.6	18.58	30.0	-11.4		

LTE Band 66 3MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement									
	Company:		Samsung							
	Project #:		4788371667							
	Date:		2018-03-14							
	Test Engineer:		51072							
	Configuration:		EUT / X-Position							
	Location:		Chamber 1							
	Mode:		LTE_QPSK Band 66 Fundamentals, 3MHz Bandwidth							
	Test Equipment:		Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable							
			f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
		MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
		Low Ch								
		1711.50	8.50	V	4.3	9.5	13.66	30.0	-16.3	
		1711.50	15.02	H	4.3	9.5	20.17	30.0	-9.8	
		Mid Ch								
		1745.00	6.72	V	4.4	9.6	11.94	30.0	-18.1	
		1745.00	14.06	H	4.4	9.6	19.28	30.0	-10.7	
		High Ch								
		1778.50	9.26	V	4.4	9.6	14.49	30.0	-15.5	
		1778.50	14.18	H	4.4	9.6	19.42	30.0	-10.6	
LTE Band 66 3MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement									
	Company:		Samsung							
	Project #:		4788371667							
	Date:		2018-03-14							
	Test Engineer:		51072							
	Configuration:		EUT / X-Position							
	Location:		Chamber 1							
	Mode:		LTE_16QAM Band 66 Fundamentals, 3MHz Bandwidth							
	Test Equipment:		Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable							
			f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
		MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
		Low Ch								
		1711.50	7.50	V	4.3	9.5	12.66	30.0	-17.3	
		1711.50	13.98	H	4.3	9.5	19.13	30.0	-10.9	
		Mid Ch								
		1745.00	5.74	V	4.4	9.6	10.96	30.0	-19.0	
		1745.00	13.12	H	4.4	9.6	18.34	30.0	-11.7	
		High Ch								
		1778.50	8.27	V	4.4	9.6	13.50	30.0	-16.5	
		1778.50	13.21	H	4.4	9.6	18.45	30.0	-11.6	

UL Verification Services, Inc. High Frequency Substitution Measurement										
LTE Band 66 1.4MHz QPSK	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / X-Position Location: Chamber 1 Mode: LTE_QPSK Band 66 Fundamentals, 1.4MHz Bandwidth									
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch									
	1710.70	5.86	V	4.3	9.5	11.01	30.0	-19.0		
	1710.70	12.81	H	4.3	9.5	17.96	30.0	-12.0		
	Mid Ch									
	1745.00	4.56	V	4.4	9.6	9.78	30.0	-20.2		
	1745.00	11.42	H	4.4	9.6	16.64	30.0	-13.4		
	High Ch									
1779.30	6.73	V	4.4	9.6	11.97	30.0	-18.0			
1779.30	11.26	H	4.4	9.6	16.50	30.0	-13.5			
LTE Band 66 1.4MHz 16QAM	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / X-Position Location: Chamber 1 Mode: LTE_16QAM Band 66 Fundamentals, 1.4MHz Bandwidth									
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch									
	1710.70	4.90	V	4.3	9.5	10.05	30.0	-20.0		
	1710.70	11.85	H	4.3	9.5	17.00	30.0	-13.0		
	Mid Ch									
	1745.00	3.61	V	4.4	9.6	8.83	30.0	-21.2		
	1745.00	10.48	H	4.4	9.6	15.70	30.0	-14.3		
	High Ch									
1779.30	5.79	V	4.4	9.6	11.03	30.0	-19.0			
1779.30	10.32	H	4.4	9.6	15.56	30.0	-14.4			

LTE Band 2

LTE Band 2 20MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1860.00	10.47	V	4.5	9.4	15.37	33.0	-17.6	
	1860.00	13.43	H	4.5	9.4	18.33	33.0	-14.7	
	Mid Ch								
	1880.00	9.56	V	4.5	9.2	14.24	33.0	-18.8	
	1880.00	12.93	H	4.5	9.2	17.61	33.0	-15.4	
High Ch									
1900.00	10.16	V	4.6	9.0	14.62	33.0	-18.4		
1900.00	13.58	H	4.6	9.0	18.04	33.0	-15.0		
LTE Band 2 20MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1860.00	9.51	V	4.5	9.4	14.41	33.0	-18.6	
	1860.00	12.80	H	4.5	9.4	17.70	33.0	-15.3	
	Mid Ch								
	1880.00	8.65	V	4.5	9.2	13.33	33.0	-19.7	
	1880.00	12.00	H	4.5	9.2	16.68	33.0	-16.3	
High Ch									
1900.00	9.21	V	4.6	9.0	13.67	33.0	-19.3		
1900.00	12.64	H	4.6	9.0	17.10	33.0	-15.9		

LTE Band 2 15MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1857.50	10.64	V	4.5	9.4	15.57	33.0	-17.4	
	1857.50	13.80	H	4.5	9.4	18.73	33.0	-14.3	
	Mid Ch								
	1880.00	9.59	V	4.5	9.2	14.27	33.0	-18.7	
	1880.00	13.23	H	4.5	9.2	17.91	33.0	-15.1	
High Ch									
1902.50	10.03	V	4.6	9.0	14.45	33.0	-18.5		
1902.50	13.06	H	4.6	9.0	17.47	33.0	-15.5		
LTE Band 2 15MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 51072 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_16QAM Band 2 Fundamentals, 15MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1857.50	9.67	V	4.5	9.4	14.60	33.0	-18.4	
	1857.50	12.80	H	4.5	9.4	17.73	33.0	-15.3	
	Mid Ch								
	1880.00	8.63	V	4.5	9.2	13.31	33.0	-19.7	
	1880.00	12.24	H	4.5	9.2	16.92	33.0	-16.1	
High Ch									
1902.50	8.98	V	4.6	9.0	13.40	33.0	-19.6		
1902.50	12.07	H	4.6	9.0	16.48	33.0	-16.5		

LTE Band 2 10MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 47989 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_QPSK Band 2 Fundamentals, 10MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1855.00	9.70	V	4.5	9.5	14.65	33.0	-18.3	
	1855.00	11.71	H	4.5	9.5	16.67	33.0	-16.3	
	Mid Ch								
	1880.00	9.73	V	4.5	9.2	14.41	33.0	-18.6	
	1880.00	12.72	H	4.5	9.2	17.40	33.0	-15.6	
High Ch									
1905.00	7.52	V	4.6	8.9	11.89	33.0	-21.1		
1905.00	11.65	H	4.6	8.9	16.03	33.0	-17.0		
LTE Band 2 10MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 47989 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_16QAM Band 2 Fundamentals, 10MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1855.00	8.68	V	4.5	9.5	13.63	33.0	-19.4	
	1855.00	10.80	H	4.5	9.5	15.76	33.0	-17.2	
	Mid Ch								
	1880.00	8.73	V	4.5	9.2	13.41	33.0	-19.6	
	1880.00	11.55	H	4.5	9.2	16.23	33.0	-16.8	
High Ch									
1905.00	6.51	V	4.6	8.9	10.88	33.0	-22.1		
1905.00	10.57	H	4.6	8.9	14.95	33.0	-18.1		

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1907.50	10.31	H	4.6	8.9	14.65	33.0	-18.4																																																																																											

LTE Band 2 3MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 47989 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth								
	Test Equipment: Receiving: Horn 3117[00168717], and Chamber 1 SMA Cables Substitution: Horn 3115[00161451], 3m N-type Cable								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch								
	1851.50	10.35	V	4.5	9.5	15.35	33.0	-17.7	
	1851.50	12.63	H	4.5	9.5	17.63	33.0	-15.4	
	Mid Ch								
	1880.00	9.96	V	4.5	9.2	14.64	33.0	-18.4	
	1880.00	13.08	H	4.5	9.2	17.76	33.0	-15.2	
High Ch									
1908.50	10.31	V	4.6	8.9	14.64	33.0	-18.4		
1908.50	12.57	H	4.6	8.9	16.89	33.0	-16.1		
LTE Band 2 3MHz 16QAM	UL Verification Services, Inc. High Frequency Substitution Measurement								
	Company: Samsung Project #: 4788371667 Date: 2018-03-14 Test Engineer: 47989 Configuration: EUT / Z-Position Location: Chamber 1 Mode: LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth								
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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
	Low Ch								
	1851.50	9.38	V	4.5	9.5	14.38	33.0	-18.6	
	1851.50	11.76	H	4.5	9.5	16.76	33.0	-16.2	
	Mid Ch								
	1880.00	8.96	V	4.5	9.2	13.64	33.0	-19.4	
	1880.00	12.06	H	4.5	9.2	16.74	33.0	-16.3	
High Ch									
1908.50	8.89	V	4.6	8.9	13.22	33.0	-19.8		
1908.50	11.54	H	4.6	8.9	15.86	33.0	-17.1		

LTE Band 2 1.4MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement																																																																																																					
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LTE Band 13

LTE Band 13 10MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement																																										
	<p> Company: Samsung Project #: 4788371667 Date: 2018-03-16 Test Engineer: 51072 Configuration: EUT / Z-Postition Location: Chamber 2 Mode: LTE_QPSK Band 13 Fundamentals, 10MHz Bandwidth </p> <p> Test Equipment: Receiving: VULB9163-749, and Chamber 2 SMA Cables Substitution: Dipole 3121_DB4, 3m N-type Cable </p> <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 (dBd)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Mid Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>782.00</td> <td>14.50</td> <td>V</td> <td>0.9</td> <td>-1.6</td> <td>12.01</td> <td>34.8</td> <td>-22.8</td> <td></td> </tr> <tr> <td>782.00</td> <td>-1.06</td> <td>H</td> <td>0.9</td> <td>-1.6</td> <td>-3.55</td> <td>34.8</td> <td>-38.3</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	Mid Ch									782.00	14.50	V	0.9	-1.6	12.01	34.8	-22.8		782.00	-1.06	H	0.9	-1.6	-3.55	34.8	-38.3
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10.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

LIMIT

Part 22.917(a) & Part 24.238(a) & Part 27.53(h) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27: (m)(4) For mobile station, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge and $(55 + 10 \log (P))$ dB at the 5.5 MHz from the channel edges.

Part 27.53(f) - For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53(c) (2) - On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB.

Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB.

Part 27.53 (h) AWS emission limits—the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log (P)$ dB.

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.12; ESU40 setting reference to 971168 D01 v03

For peak power measurement with a ESU40:

- a) Set the RBW = 100 KHz for emission below 1GHz and 1MHz for emissions above 1GHz
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = peak;
- f) Ensure that the number of measurement points \geq span/RBW;
- g) Trace mode = max hold;

NOTE : Radiated spurious emissions were investigated 30MHz – 1GHz and above 1GHz. There were no emissions found on below 30MHz and 30MHz – 1GHz.

RESULTS

10.2.1. SPURIOUS RADIATION PLOTS

GSM 850

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788371662 Date: 2018-03-13 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: GPRS 850 MHz Harmonics									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, 824.2MHz											
1648.40	-10.0	V	3.0	38.2	1.0	-47.2	-13.0	-34.2			
2472.60	8.8	V	3.0	38.8	1.0	-29.0	-13.0	-16.0			
3296.80	-15.0	V	3.0	39.4	1.0	-53.5	-13.0	-40.5			
4121.00	1.1	V	3.0	39.8	1.0	-37.7	-13.0	-24.7			
1648.40	-10.6	H	3.0	38.2	1.0	-47.8	-13.0	-34.8			
2472.60	9.8	H	3.0	38.8	1.0	-28.0	-13.0	-15.0			
3296.80	-15.2	H	3.0	39.4	1.0	-53.6	-13.0	-40.6			
4121.00	3.5	H	3.0	39.8	1.0	-35.3	-13.0	-22.3			
Mid Ch, 836.6MHz											
1673.20	-10.2	V	3.0	38.2	1.0	-47.4	-13.0	-34.4			
2509.80	7.3	V	3.0	38.8	1.0	-30.6	-13.0	-17.6			
3346.40	-14.7	V	3.0	39.5	1.0	-53.2	-13.0	-40.2			
4183.00	3.6	V	3.0	39.8	1.0	-35.2	-13.0	-22.2			
1673.20	-9.2	H	3.0	38.2	1.0	-46.5	-13.0	-33.5			
2509.80	9.2	H	3.0	38.8	1.0	-28.7	-13.0	-15.7			
3346.40	-14.2	H	3.0	39.5	1.0	-52.7	-13.0	-39.7			
4183.00	4.6	H	3.0	39.8	1.0	-34.2	-13.0	-21.2			
High Ch, 848.8MHz											
1697.60	-8.7	V	3.0	38.2	1.0	-45.9	-13.0	-32.9			
2546.40	7.4	V	3.0	38.9	1.0	-30.5	-13.0	-17.5			
3395.20	-14.8	V	3.0	39.5	1.0	-53.3	-13.0	-40.3			
4244.00	4.0	V	3.0	39.8	1.0	-34.8	-13.0	-21.8			
1697.60	-4.3	H	3.0	38.2	1.0	-41.6	-13.0	-28.6			
2546.40	11.6	H	3.0	38.9	1.0	-26.3	-13.0	-13.3			
3395.20	-14.3	H	3.0	39.5	1.0	-52.8	-13.0	-39.8			
4244.00	2.2	H	3.0	39.8	1.0	-36.6	-13.0	-23.6			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788371662 Date: 2018-03-13 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: EGPRS 850 MHz Harmonics									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, 824.2MHz											
1648.40	-17.5	V	3.0	38.2	1.0	-54.7	-13.0	-41.7			
2472.60	-4.2	V	3.0	38.8	1.0	-42.0	-13.0	-29.0			
3296.80	-15.5	V	3.0	39.4	1.0	-53.9	-13.0	-40.9			
4121.00	-10.6	V	3.0	39.8	1.0	-49.4	-13.0	-36.4			
1648.40	-15.2	H	3.0	38.2	1.0	-52.4	-13.0	-39.4			
2472.60	-3.7	H	3.0	38.8	1.0	-41.5	-13.0	-28.5			
3296.80	-15.4	H	3.0	39.4	1.0	-53.8	-13.0	-40.8			
4121.00	-9.0	H	3.0	39.8	1.0	-47.8	-13.0	-34.8			
Mid Ch, 836.6MHz											
1673.20	-17.1	V	3.0	38.2	1.0	-54.3	-13.0	-41.3			
2509.80	-5.7	V	3.0	38.8	1.0	-43.5	-13.0	-30.5			
3346.40	-14.5	V	3.0	39.5	1.0	-52.9	-13.0	-39.9			
4183.00	-9.7	V	3.0	39.8	1.0	-46.6	-13.0	-35.6			
1673.20	-14.7	H	3.0	38.2	1.0	-51.9	-13.0	-38.9			
2509.80	-2.7	H	3.0	38.8	1.0	-40.6	-13.0	-27.6			
3346.40	-14.5	H	3.0	39.5	1.0	-53.0	-13.0	-40.0			
4183.00	-7.8	H	3.0	39.8	1.0	-46.6	-13.0	-33.6			
High Ch, 848.8MHz											
1697.60	-11.2	V	3.0	38.2	1.0	-48.5	-13.0	-35.5			
2546.40	-2.2	V	3.0	38.9	1.0	-40.0	-13.0	-27.0			
3395.20	-14.2	V	3.0	39.5	1.0	-52.7	-13.0	-39.7			
4244.00	-9.1	V	3.0	39.8	1.0	-47.9	-13.0	-34.9			
1697.60	-8.7	H	3.0	38.2	1.0	-46.0	-13.0	-33.0			
2546.40	2.0	H	3.0	38.9	1.0	-35.9	-13.0	-22.9			
3395.20	-14.2	H	3.0	39.5	1.0	-52.6	-13.0	-39.6			
4244.00	-8.5	H	3.0	39.8	1.0	-47.3	-13.0	-34.3			

GSM 1900

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM1900 GPRS	Company:	Samsung								
	Project #:	4788371662								
	Date:	2018-03-12								
	Test Engineer:	47989								
	Configuration:	EUT / AC Adapter / Earphone, Y-Position								
	Location:	Chamber 2								
	Mode:	GPRS 1900 MHz Harmonics								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.2MHz									
	3700.40	-9.0	V	3.0	39.7	1.0	-47.6	-13.0	-34.6	
	5550.60	-8.8	V	3.0	39.9	1.0	-47.7	-13.0	-34.7	
	7400.80	-11.6	V	3.0	39.4	1.0	-50.0	-13.0	-37.0	
	3700.40	-10.3	H	3.0	39.7	1.0	-48.9	-13.0	-35.9	
	5550.60	-10.0	H	3.0	39.9	1.0	-48.9	-13.0	-35.9	
	7400.80	-11.1	H	3.0	39.4	1.0	-49.5	-13.0	-36.5	
	Mid Ch, 1880MHz									
	3760.00	-9.0	V	3.0	39.7	1.0	-47.7	-13.0	-34.7	
	5640.00	-10.3	V	3.0	40.0	1.0	-49.3	-13.0	-36.3	
	7520.00	-10.7	V	3.0	39.4	1.0	-49.1	-13.0	-36.1	
	3760.00	-10.1	H	3.0	39.7	1.0	-48.8	-13.0	-35.8	
	5640.00	-11.6	H	3.0	40.0	1.0	-50.6	-13.0	-37.6	
	7520.00	-10.8	H	3.0	39.4	1.0	-49.2	-13.0	-36.2	
	High Ch, 1909.8MHz									
	3819.60	-9.8	V	3.0	39.7	1.0	-48.5	-13.0	-35.5	
	5729.40	-11.1	V	3.0	40.0	1.0	-50.1	-13.0	-37.1	
7639.20	-10.7	V	3.0	39.3	1.0	-49.1	-13.0	-36.1		
3819.60	-11.1	H	3.0	39.7	1.0	-49.8	-13.0	-36.8		
5729.40	-9.8	H	3.0	40.0	1.0	-48.7	-13.0	-35.7		
7639.20	-10.3	H	3.0	39.3	1.0	-48.7	-13.0	-35.7		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM1900 EGPRS	Company:	Samsung								
	Project #:	4788371662								
	Date:	2018-03-12								
	Test Engineer:	47989								
	Configuration:	EUT / AC Adapter / Earphone, Y-Position								
	Location:	Chamber 2								
	Mode:	EGPRS 1900 MHz Harmonics								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1850.2MHz									
	3700.40	-10.9	V	3.0	39.7	1.0	-49.5	-13.0	-36.5	
	5550.60	-11.0	V	3.0	39.9	1.0	-49.9	-13.0	-36.9	
	7400.80	-11.9	V	3.0	39.4	1.0	-50.4	-13.0	-37.4	
	3700.40	-13.1	H	3.0	39.7	1.0	-51.8	-13.0	-38.8	
	5550.60	-12.1	H	3.0	39.9	1.0	-51.0	-13.0	-38.0	
	7400.80	-11.2	H	3.0	39.4	1.0	-49.6	-13.0	-36.6	
	Mid Ch, 1880MHz									
	3760.00	-11.9	V	3.0	39.7	1.0	-50.6	-13.0	-37.6	
	5640.00	-12.3	V	3.0	40.0	1.0	-51.2	-13.0	-38.2	
	7520.00	-10.9	V	3.0	39.4	1.0	-49.3	-13.0	-36.3	
	3760.00	-12.4	H	3.0	39.7	1.0	-51.1	-13.0	-38.1	
	5640.00	-12.3	H	3.0	40.0	1.0	-51.2	-13.0	-38.2	
	7520.00	-10.9	H	3.0	39.4	1.0	-49.2	-13.0	-36.2	
	High Ch, 1909.8MHz									
	3819.60	-12.0	V	3.0	39.7	1.0	-50.7	-13.0	-37.7	
	5729.40	-11.5	V	3.0	40.0	1.0	-50.5	-13.0	-37.5	
7639.20	-11.0	V	3.0	39.3	1.0	-49.3	-13.0	-36.3		
3819.60	-12.9	H	3.0	39.7	1.0	-51.6	-13.0	-38.6		
5729.40	-12.1	H	3.0	40.0	1.0	-51.1	-13.0	-38.1		
7639.20	-11.0	H	3.0	39.3	1.0	-49.3	-13.0	-36.3		

WCDMA Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
WCDMA Band 5 REL99	Company: Samsung Project #: 4788371662 Date: 2018-03-02 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: Rel99 Band 5 Harmonics										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 826.4MHz										
	1652.80	-17.8	V	3.0	38.2	1.0	-55.0	-13.0	-42.0		
	2479.20	-14.3	V	3.0	38.8	1.0	-52.1	-13.0	-39.1		
	3305.60	-12.5	V	3.0	39.4	1.0	-50.9	-13.0	-37.9		
	4132.00	-5.7	V	3.0	39.8	1.0	-44.5	-13.0	-31.5		
	1652.80	-16.9	H	3.0	38.2	1.0	-54.1	-13.0	-41.1		
	2479.20	-13.6	H	3.0	38.8	1.0	-51.5	-13.0	-38.5		
	3305.60	-11.6	H	3.0	39.4	1.0	-50.0	-13.0	-37.0		
	4132.00	-2.7	H	3.0	39.8	1.0	-41.5	-13.0	-28.5		
	Mid Ch, 836.6MHz										
	1673.20	-17.0	V	3.0	38.2	1.0	-54.2	-13.0	-41.2		
	2509.80	-14.3	V	3.0	38.8	1.0	-52.1	-13.0	-39.1		
	3346.40	-11.4	V	3.0	39.5	1.0	-49.8	-13.0	-36.8		
	4183.00	-3.9	V	3.0	39.8	1.0	-42.7	-13.0	-29.7		
	1673.20	-18.0	H	3.0	38.2	1.0	-55.2	-13.0	-42.2		
	2509.80	-12.7	H	3.0	38.8	1.0	-50.5	-13.0	-37.5		
	3346.40	-12.0	H	3.0	39.5	1.0	-50.5	-13.0	-37.5		
	4183.00	-0.5	H	3.0	39.8	1.0	-39.3	-13.0	-26.3		
	High Ch, 846.6MHz										
	1693.20	-17.7	V	3.0	38.2	1.0	-54.9	-13.0	-41.9		
	2539.80	-14.7	V	3.0	38.9	1.0	-52.6	-13.0	-39.6		
	3386.40	-9.6	V	3.0	39.5	1.0	-48.1	-13.0	-35.1		
	4233.00	-3.9	V	3.0	39.8	1.0	-42.7	-13.0	-29.7		
	1693.20	-17.5	H	3.0	38.2	1.0	-54.8	-13.0	-41.8		
	2539.80	-12.9	H	3.0	38.9	1.0	-50.7	-13.0	-37.7		
3386.40	-9.5	H	3.0	39.5	1.0	-48.0	-13.0	-35.0			
4233.00	2.0	H	3.0	39.8	1.0	-36.8	-13.0	-23.8			
WCDMA Band 5 HSDPA	Company: Samsung Project #: 4788371662 Date: 2018-03-02 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: HSDPA Band 5 Harmonics										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 826.4MHz										
	1652.80	-18.1	V	3.0	38.2	1.0	-55.3	-13.0	-42.3		
	2479.20	-15.3	V	3.0	38.8	1.0	-53.2	-13.0	-40.2		
	3305.60	-13.4	V	3.0	39.4	1.0	-51.9	-13.0	-38.9		
	4132.00	-7.4	V	3.0	39.8	1.0	-46.2	-13.0	-33.2		
	1652.80	-17.7	H	3.0	38.2	1.0	-54.9	-13.0	-41.9		
	2479.20	-14.5	H	3.0	38.8	1.0	-52.3	-13.0	-39.3		
	3305.60	-13.7	H	3.0	39.4	1.0	-52.2	-13.0	-39.2		
	4132.00	-6.0	H	3.0	39.8	1.0	-44.8	-13.0	-31.8		
	Mid Ch, 836.6MHz										
	1673.20	-17.8	V	3.0	38.2	1.0	-55.1	-13.0	-42.1		
	2509.80	-14.7	V	3.0	38.8	1.0	-52.5	-13.0	-39.5		
	3346.40	-14.0	V	3.0	39.5	1.0	-52.4	-13.0	-39.4		
	4183.00	-6.5	V	3.0	39.8	1.0	-45.3	-13.0	-32.3		
	1673.20	-17.7	H	3.0	38.2	1.0	-54.9	-13.0	-41.9		
	2509.80	-13.8	H	3.0	38.8	1.0	-51.7	-13.0	-38.7		
	3346.40	-13.9	H	3.0	39.5	1.0	-52.3	-13.0	-39.3		
	4183.00	-5.5	H	3.0	39.8	1.0	-44.4	-13.0	-31.4		
	High Ch, 846.6MHz										
	1693.20	-17.8	V	3.0	38.2	1.0	-55.0	-13.0	-42.0		
	2539.80	-16.3	V	3.0	38.9	1.0	-54.2	-13.0	-41.2		
	3386.40	-12.2	V	3.0	39.5	1.0	-50.7	-13.0	-37.7		
	4233.00	-6.8	V	3.0	39.8	1.0	-45.6	-13.0	-32.6		
	1693.20	-17.9	H	3.0	38.2	1.0	-55.2	-13.0	-42.2		
	2539.80	-13.8	H	3.0	38.9	1.0	-51.6	-13.0	-38.6		
3386.40	-12.0	H	3.0	39.5	1.0	-50.5	-13.0	-37.5			
4233.00	-1.3	H	3.0	39.8	1.0	-40.1	-13.0	-27.1			

WCDMA Band 2

		UL Verification Services, Inc.									
		Above 1GHz High Frequency Substitution Measurement									
WCDMA Band 2 REL99		Company: Samsung Project #: 4788371662 Date: 2018-03-04 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, Y-Position Location: Chamber 1 Mode: Rel99 Band 2 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, 1852.4MHz									
		3704.80	-6.9	V	3.0	43.8	1.0	-49.6	-13.0	-36.6	
		5557.20	-4.8	V	3.0	43.7	1.0	-47.5	-13.0	-34.5	
		7409.60	-5.0	V	3.0	42.5	1.0	-46.5	-13.0	-33.5	
		3704.80	-7.0	H	3.0	43.8	1.0	-49.7	-13.0	-36.7	
		5557.20	-6.0	H	3.0	43.7	1.0	-48.7	-13.0	-35.7	
		7409.60	-4.4	H	3.0	42.5	1.0	-46.0	-13.0	-33.0	
		Mid Ch, 1880MHz									
		3760.00	-7.4	V	3.0	43.8	1.0	-50.2	-13.0	-37.2	
		5640.00	-4.2	V	3.0	43.7	1.0	-46.9	-13.0	-33.9	
		7520.00	-4.6	V	3.0	42.5	1.0	-46.1	-13.0	-33.1	
		3760.00	-7.5	H	3.0	43.8	1.0	-50.2	-13.0	-37.2	
		5640.00	-4.8	H	3.0	43.7	1.0	-47.5	-13.0	-34.5	
7520.00	-4.0	H	3.0	42.5	1.0	-45.5	-13.0	-32.5			
High Ch, 1907.6MHz											
3815.20	-7.6	V	3.0	43.8	1.0	-50.4	-13.0	-37.4			
5722.80	-4.7	V	3.0	43.7	1.0	-47.4	-13.0	-34.4			
7630.40	-4.8	V	3.0	42.4	1.0	-46.2	-13.0	-33.2			
3815.20	-7.5	H	3.0	43.8	1.0	-50.3	-13.0	-37.3			
5722.80	-4.8	H	3.0	43.7	1.0	-47.5	-13.0	-34.5			
7630.40	-3.4	H	3.0	42.4	1.0	-44.7	-13.0	-31.7			
WCDMA Band 2 HSDPA		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788371662 Date: 2018-03-04 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, Y-Position Location: Chamber 1 Mode: HSDPA Band 2 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, 1852.4MHz									
		3704.80	-6.9	V	3.0	43.8	1.0	-49.7	-13.0	-36.7	
		5557.20	-5.4	V	3.0	43.7	1.0	-48.1	-13.0	-35.1	
		7409.60	-5.1	V	3.0	42.5	1.0	-46.6	-13.0	-33.6	
		3704.80	-7.5	H	3.0	43.8	1.0	-50.2	-13.0	-37.2	
		5557.20	-6.2	H	3.0	43.7	1.0	-48.9	-13.0	-35.9	
		7409.60	-4.7	H	3.0	42.5	1.0	-46.2	-13.0	-33.2	
		Mid Ch, 1880MHz									
		3760.00	-8.1	V	3.0	43.8	1.0	-50.9	-13.0	-37.9	
		5640.00	-4.5	V	3.0	43.7	1.0	-47.2	-13.0	-34.2	
		7520.00	-5.5	V	3.0	42.5	1.0	-46.9	-13.0	-33.9	
		3760.00	-7.7	H	3.0	43.8	1.0	-50.5	-13.0	-37.5	
		5640.00	-5.3	H	3.0	43.7	1.0	-48.0	-13.0	-35.0	
7520.00	-4.5	H	3.0	42.5	1.0	-45.9	-13.0	-32.9			
High Ch, 1907.6MHz											
3815.20	-8.2	V	3.0	43.8	1.0	-51.0	-13.0	-38.0			
5722.80	-5.2	V	3.0	43.7	1.0	-47.9	-13.0	-34.9			
7630.40	-5.1	V	3.0	42.4	1.0	-46.5	-13.0	-33.5			
3815.20	-8.4	H	3.0	43.8	1.0	-51.2	-13.0	-38.2			
5722.80	-5.4	H	3.0	43.7	1.0	-48.1	-13.0	-35.1			
7630.40	-4.2	H	3.0	42.4	1.0	-45.5	-13.0	-32.5			

WCDMA Band 4

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
WCDMA Band 4 REL99	Company: Samsung Project #: 4788371667 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: Rel99 Band 4 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, 1712.4MHz										
	3424.80	-14.0	V	3.0	39.5	1.0	-52.5	-13.0	-39.5		
	5137.20	-12.1	V	3.0	39.8	1.0	-50.9	-13.0	-37.9		
	6849.60	-11.3	V	3.0	39.7	1.0	-50.0	-13.0	-37.0		
	3424.80	-12.9	H	3.0	39.5	1.0	-51.4	-13.0	-38.4		
	5137.20	-12.1	H	3.0	39.8	1.0	-50.9	-13.0	-37.9		
	6849.60	-11.0	H	3.0	39.7	1.0	-49.7	-13.0	-36.7		
	Mid Ch, 1732.6MHz										
	3465.20	-14.2	V	3.0	39.5	1.0	-52.7	-13.0	-39.7		
	5197.80	-12.3	V	3.0	39.8	1.0	-51.1	-13.0	-38.1		
	6930.40	-11.2	V	3.0	39.7	1.0	-49.8	-13.0	-36.8		
	3465.20	-14.2	H	3.0	39.5	1.0	-52.7	-13.0	-39.7		
	5197.80	-11.8	H	3.0	39.8	1.0	-50.7	-13.0	-37.7		
	6930.40	-10.7	H	3.0	39.7	1.0	-49.4	-13.0	-36.4		
	High Ch, 1752.6MHz										
	3505.20	-13.6	V	3.0	39.5	1.0	-52.2	-13.0	-39.2		
	5257.80	-12.3	V	3.0	39.8	1.0	-51.2	-13.0	-38.2		
	7010.40	-11.2	V	3.0	39.6	1.0	-49.8	-13.0	-36.8		
	3505.20	-12.8	H	3.0	39.5	1.0	-51.3	-13.0	-38.3		
	5257.80	-12.5	H	3.0	39.8	1.0	-51.4	-13.0	-38.4		
	7010.40	-11.6	H	3.0	39.6	1.0	-50.2	-13.0	-37.2		
	WCDMA Band 4 HSDPA	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788371667 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: HSDPA Band 4 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, 1712.4MHz											
3424.80		-14.1	V	3.0	39.5	1.0	-52.6	-13.0	-39.6		
5137.20		-11.8	V	3.0	39.8	1.0	-50.6	-13.0	-37.6		
6849.60		-11.0	V	3.0	39.7	1.0	-49.7	-13.0	-36.7		
3424.80		-14.1	H	3.0	39.5	1.0	-52.6	-13.0	-39.6		
5137.20		-12.1	H	3.0	39.8	1.0	-50.9	-13.0	-37.9		
6849.60		-10.7	H	3.0	39.7	1.0	-49.4	-13.0	-36.4		
Mid Ch, 1732.6MHz											
3465.20		-14.0	V	3.0	39.5	1.0	-52.6	-13.0	-39.6		
5197.80		-12.2	V	3.0	39.8	1.0	-51.0	-13.0	-38.0		
6930.40		-10.5	V	3.0	39.7	1.0	-49.2	-13.0	-36.2		
3465.20		-13.7	H	3.0	39.5	1.0	-52.2	-13.0	-39.2		
5197.80		-12.1	H	3.0	39.8	1.0	-51.0	-13.0	-38.0		
6930.40		-10.7	H	3.0	39.7	1.0	-49.3	-13.0	-36.3		
High Ch, 1752.6MHz											
3505.20		-13.6	V	3.0	39.5	1.0	-52.1	-13.0	-39.1		
5257.80		-12.4	V	3.0	39.8	1.0	-51.2	-13.0	-38.2		
7010.40		-10.8	V	3.0	39.6	1.0	-49.4	-13.0	-36.4		
3505.20		-13.9	H	3.0	39.5	1.0	-52.4	-13.0	-39.4		
5257.80		-11.8	H	3.0	39.8	1.0	-50.7	-13.0	-37.7		
7010.40		-11.1	H	3.0	39.6	1.0	-49.7	-13.0	-36.7		

LTE Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement												
		Company: Samsung Project #: 4788371662 Date: 2018-02-22 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, XPosition Location: Chamber 2 Mode: LTE_QPSK Band 5 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			
LTE Band 5 10MHz QPSK		Low Ch, 829MHz												
		1658.00	-16.7	V	3.0	38.2	1.0	-53.9	-13.0	-40.9				
		2487.00	-7.8	V	3.0	38.8	1.0	-45.7	-13.0	-32.7				
		3316.00	-8.3	V	3.0	39.4	1.0	-46.8	-13.0	-33.8				
		4145.00	5.2	V	3.0	39.8	1.0	-33.6	-13.0	-20.6				
		4974.00	-8.0	V	3.0	39.8	1.0	-46.7	-13.0	-33.7				
		1658.00	-15.0	H	3.0	38.2	1.0	-52.2	-13.0	-39.2				
		2487.00	-9.5	H	3.0	38.8	1.0	-47.3	-13.0	-34.3				
		3316.00	-7.5	H	3.0	39.4	1.0	-45.9	-13.0	-32.9				
		4145.00	6.8	H	3.0	39.8	1.0	-32.0	-13.0	-19.0				
		4974.00	-7.0	H	3.0	39.8	1.0	-45.8	-13.0	-32.8				
		Mid Ch, 836.5MHz												
		1673.00	-17.3	V	3.0	38.2	1.0	-54.6	-13.0	-41.6				
		2509.50	-8.7	V	3.0	38.8	1.0	-46.5	-13.0	-33.5				
		3346.00	-8.8	V	3.0	39.5	1.0	-45.2	-13.0	-32.2				
		4182.50	4.9	V	3.0	39.8	1.0	-33.9	-13.0	-20.9				
		5019.00	-6.0	V	3.0	39.8	1.0	-44.7	-13.0	-31.7				
		1673.00	-16.5	H	3.0	38.2	1.0	-53.7	-13.0	-40.7				
		2509.50	-6.2	H	3.0	38.8	1.0	-44.0	-13.0	-31.0				
		3346.00	-7.0	H	3.0	39.5	1.0	-45.4	-13.0	-32.4				
		4182.50	4.4	H	3.0	39.8	1.0	-34.5	-13.0	-21.5				
		5019.00	-4.7	H	3.0	39.8	1.0	-43.4	-13.0	-30.4				
		High Ch, 844MHz												
		1688.00	-16.2	V	3.0	38.2	1.0	-53.5	-13.0	-40.5				
		2532.00	-6.3	V	3.0	38.9	1.0	-44.2	-13.0	-31.2				
		3376.00	-9.2	V	3.0	39.5	1.0	-47.7	-13.0	-34.7				
		4220.00	0.8	V	3.0	39.8	1.0	-38.0	-13.0	-25.0				
		5064.00	-8.5	V	3.0	39.8	1.0	-47.3	-13.0	-34.3				
		1688.00	-17.9	H	3.0	38.2	1.0	-55.1	-13.0	-42.1				
		2532.00	-4.8	H	3.0	38.9	1.0	-42.6	-13.0	-29.6				
		3376.00	-10.0	H	3.0	39.5	1.0	-48.4	-13.0	-35.4				
		4220.00	0.9	H	3.0	39.8	1.0	-37.9	-13.0	-24.9				
		5064.00	-8.6	H	3.0	39.8	1.0	-48.4	-13.0	-35.4				
		LTE Band 5 10MHz 16QAM		Low Ch, 829MHz										
				1658.00	-16.8	V	3.0	38.2	1.0	-54.0	-13.0	-41.0		
				2487.00	-6.0	V	3.0	38.8	1.0	-43.8	-13.0	-30.8		
3316.00	-7.4			V	3.0	39.4	1.0	-45.8	-13.0	-32.8				
4145.00	5.0			V	3.0	39.8	1.0	-33.8	-13.0	-20.8				
4974.00	-8.9			V	3.0	39.8	1.0	-47.7	-13.0	-34.7				
1658.00	-14.0			H	3.0	38.2	1.0	-51.2	-13.0	-38.2				
2487.00	-10.4			H	3.0	38.8	1.0	-48.2	-13.0	-35.2				
3316.00	-8.6			H	3.0	39.4	1.0	-47.0	-13.0	-34.0				
4145.00	6.1			H	3.0	39.8	1.0	-32.7	-13.0	-19.7				
4974.00	-8.0			H	3.0	39.8	1.0	-46.7	-13.0	-33.7				
Mid Ch, 836.5MHz														
1673.00	-17.3			V	3.0	38.2	1.0	-54.5	-13.0	-41.5				
2509.50	-8.8			V	3.0	38.8	1.0	-46.7	-13.0	-33.7				
3346.00	-8.1			V	3.0	39.5	1.0	-46.5	-13.0	-33.5				
4182.50	3.5			V	3.0	39.8	1.0	-35.3	-13.0	-22.3				
5019.00	-6.8			V	3.0	39.8	1.0	-45.6	-13.0	-32.6				
1673.00	-17.4			H	3.0	38.2	1.0	-54.6	-13.0	-41.6				
2509.50	-8.8			H	3.0	38.8	1.0	-44.7	-13.0	-31.7				
3346.00	-8.8			H	3.0	39.5	1.0	-47.2	-13.0	-34.2				
4182.50	5.7			H	3.0	39.8	1.0	-33.1	-13.0	-20.1				
5019.00	-6.8			H	3.0	39.8	1.0	-45.6	-13.0	-32.6				
High Ch, 844MHz														
1688.00	-17.2			V	3.0	38.2	1.0	-54.5	-13.0	-41.5				
2532.00	-7.2			V	3.0	38.9	1.0	-45.1	-13.0	-32.1				
3376.00	-9.2			V	3.0	39.5	1.0	-47.7	-13.0	-34.7				
4220.00	-0.9			V	3.0	39.8	1.0	-39.7	-13.0	-26.7				
5064.00	-9.5			V	3.0	39.8	1.0	-48.3	-13.0	-35.3				
1688.00	-16.4			H	3.0	38.2	1.0	-53.7	-13.0	-40.7				
2532.00	-5.3			H	3.0	38.9	1.0	-43.1	-13.0	-30.1				
3376.00	-8.9			H	3.0	39.5	1.0	-47.4	-13.0	-34.4				
4220.00	-0.5			H	3.0	39.8	1.0	-39.3	-13.0	-26.3				
5064.00	-8.0			H	3.0	39.8	1.0	-47.8	-13.0	-34.8				

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
		Company: Samsung Project #: 4788371662 Date: 2018-03-07 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth											
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
LTE Band 5 5MHz QPSK		Low Ch, 826.5MHz											
		1653.00	-17.4	V	3.0	38.2	1.0	-54.6	-13.0	-41.6			
		2479.50	-6.7	V	3.0	38.8	1.0	-44.6	-13.0	-31.6			
		3306.00	-11.4	V	3.0	39.4	1.0	-49.9	-13.0	-36.9			
		4132.50	0.4	V	3.0	39.8	1.0	-38.4	-13.0	-25.4			
		4959.00	-8.2	V	3.0	39.8	1.0	-47.0	-13.0	-34.0			
		1653.00	-14.1	H	3.0	38.2	1.0	-51.3	-13.0	-38.3			
		2479.50	-2.4	H	3.0	38.8	1.0	-40.2	-13.0	-27.2			
		3306.00	-9.3	H	3.0	39.4	1.0	-47.7	-13.0	-34.7			
		4132.50	2.6	H	3.0	39.8	1.0	-36.2	-13.0	-23.2			
		4959.00	-7.5	H	3.0	39.8	1.0	-46.2	-13.0	-33.2			
		Mid Ch, 836.5MHz											
		1673.00	-17.6	V	3.0	38.2	1.0	-54.8	-13.0	-41.8			
		2509.50	-10.2	V	3.0	38.8	1.0	-48.1	-13.0	-35.1			
		3346.00	-6.3	V	3.0	39.5	1.0	-44.7	-13.0	-31.7			
		4182.50	0.8	V	3.0	39.8	1.0	-38.0	-13.0	-25.0			
		5019.00	-7.0	V	3.0	39.8	1.0	-45.8	-13.0	-32.8			
		1673.00	-14.7	H	3.0	38.2	1.0	-51.9	-13.0	-38.9			
		2509.50	-8.2	H	3.0	38.8	1.0	-46.0	-13.0	-33.0			
		3346.00	-5.8	H	3.0	39.5	1.0	-44.3	-13.0	-31.3			
		4182.50	4.1	H	3.0	39.8	1.0	-34.8	-13.0	-21.8			
		5019.00	-7.1	H	3.0	39.8	1.0	-45.9	-13.0	-32.9			
		High Ch, 846.5MHz											
		1693.00	-15.1	V	3.0	38.2	1.0	-52.4	-13.0	-39.4			
		2539.50	-6.2	V	3.0	38.9	1.0	-43.1	-13.0	-30.1			
		3386.00	-8.1	V	3.0	39.5	1.0	-46.5	-13.0	-33.5			
		4232.50	6.0	V	3.0	39.8	1.0	-32.8	-13.0	-19.8			
		5079.00	-7.8	V	3.0	39.8	1.0	-46.6	-13.0	-33.6			
		1693.00	-13.0	H	3.0	38.2	1.0	-50.3	-13.0	-37.3			
		2539.50	-2.2	H	3.0	38.9	1.0	-40.0	-13.0	-27.0			
		3386.00	-3.8	H	3.0	39.5	1.0	-42.3	-13.0	-29.3			
		4232.50	8.1	H	3.0	39.8	1.0	-30.7	-13.0	-17.7			
		5079.00	-6.1	H	3.0	39.8	1.0	-44.9	-13.0	-31.9			
		LTE Band 5 5MHz 16QAM		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
				Company: Samsung Project #: 4788371662 Date: 2018-03-07 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth									
						f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)
Low Ch, 826.5MHz													
1653.00	-18.3			V	3.0	38.2	1.0	-55.5	-13.0	-42.5			
2479.50	-5.3			V	3.0	38.8	1.0	-43.1	-13.0	-30.1			
3306.00	-10.9			V	3.0	39.4	1.0	-49.3	-13.0	-36.3			
4132.50	0.2			V	3.0	39.8	1.0	-38.6	-13.0	-25.6			
4959.00	-9.3			V	3.0	39.8	1.0	-48.1	-13.0	-35.1			
1653.00	-14.8			H	3.0	38.2	1.0	-52.1	-13.0	-39.1			
2479.50	-3.3			H	3.0	38.8	1.0	-41.1	-13.0	-28.1			
3306.00	-10.5			H	3.0	39.4	1.0	-49.0	-13.0	-36.0			
4132.50	1.1			H	3.0	39.8	1.0	-37.7	-13.0	-24.7			
4959.00	-7.5			H	3.0	39.8	1.0	-46.2	-13.0	-33.2			
Mid Ch, 836.5MHz													
1673.00	-16.8			V	3.0	38.2	1.0	-54.0	-13.0	-41.0			
2509.50	-10.3			V	3.0	38.8	1.0	-48.1	-13.0	-35.1			
3346.00	-6.7			V	3.0	39.5	1.0	-45.2	-13.0	-32.2			
4182.50	2.9			V	3.0	39.8	1.0	-35.9	-13.0	-22.9			
5019.00	-7.8			V	3.0	39.8	1.0	-46.5	-13.0	-33.5			
1673.00	-15.8			H	3.0	38.2	1.0	-53.0	-13.0	-40.0			
2509.50	-7.4			H	3.0	38.8	1.0	-45.2	-13.0	-32.2			
3346.00	-8.8			H	3.0	39.5	1.0	-47.2	-13.0	-34.2			
4182.50	3.2			H	3.0	39.8	1.0	-35.6	-13.0	-22.6			
5019.00	-7.2			H	3.0	39.8	1.0	-46.0	-13.0	-33.0			
High Ch, 846.5MHz													
1693.00	-16.4			V	3.0	38.2	1.0	-53.7	-13.0	-40.7			
2539.50	-7.5			V	3.0	38.9	1.0	-45.3	-13.0	-32.3			
3386.00	-8.1			V	3.0	39.5	1.0	-47.6	-13.0	-34.6			
4232.50	5.5			V	3.0	39.8	1.0	-33.3	-13.0	-20.3			
5079.00	-9.9			V	3.0	39.8	1.0	-48.7	-13.0	-35.7			
1693.00	-14.3			H	3.0	38.2	1.0	-51.6	-13.0	-38.6			
2539.50	-3.2			H	3.0	38.9	1.0	-41.1	-13.0	-28.1			
3386.00	-5.1			H	3.0	39.5	1.0	-43.6	-13.0	-30.6			
4232.50	7.5			H	3.0	39.8	1.0	-31.3	-13.0	-18.3			
5079.00	-7.1			H	3.0	39.8	1.0	-45.9	-13.0	-32.9			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788371662 Date: 2018-03-07 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, 825.5MHz											
1651.00	-15.8	V	3.0	38.2	1.0	-53.0	-13.0	-40.0			
2476.50	-9.1	V	3.0	38.8	1.0	-46.9	-13.0	-33.9			
3302.00	-13.1	V	3.0	39.4	1.0	-51.6	-13.0	-38.6			
4127.50	-1.6	V	3.0	39.8	1.0	-40.4	-13.0	-27.4			
4953.00	-8.7	V	3.0	39.8	1.0	-47.5	-13.0	-34.5			
1651.00	-15.1	H	3.0	38.2	1.0	-52.3	-13.0	-39.3			
2476.50	-6.0	H	3.0	38.8	1.0	-43.8	-13.0	-30.8			
3302.00	-11.7	H	3.0	39.4	1.0	-50.2	-13.0	-37.2			
4127.50	0.0	H	3.0	39.8	1.0	-38.8	-13.0	-25.8			
4953.00	-8.9	H	3.0	39.8	1.0	-47.7	-13.0	-34.7			
Mid Ch, 836.5MHz											
1673.00	-17.6	V	3.0	38.2	1.0	-54.8	-13.0	-41.8			
2509.50	-10.5	V	3.0	38.8	1.0	-48.4	-13.0	-35.4			
3346.00	-10.7	V	3.0	39.5	1.0	-49.2	-13.0	-36.2			
4182.50	0.6	V	3.0	39.8	1.0	-38.2	-13.0	-25.2			
5019.00	-7.2	V	3.0	39.8	1.0	-46.0	-13.0	-33.0			
1673.00	-17.3	H	3.0	38.2	1.0	-54.6	-13.0	-41.6			
2509.50	-7.6	H	3.0	38.8	1.0	-45.4	-13.0	-32.4			
3346.00	-6.2	H	3.0	39.5	1.0	-44.7	-13.0	-31.7			
4182.50	4.7	H	3.0	39.8	1.0	-34.1	-13.0	-21.1			
5019.00	-5.4	H	3.0	39.8	1.0	-44.2	-13.0	-31.2			
High Ch, 847.5MHz											
1695.00	-16.2	V	3.0	38.2	1.0	-53.5	-13.0	-40.5			
2542.50	-7.7	V	3.0	38.9	1.0	-45.6	-13.0	-32.6			
3390.00	-5.4	V	3.0	39.5	1.0	-43.9	-13.0	-30.9			
4237.50	5.7	V	3.0	39.8	1.0	-33.1	-13.0	-20.1			
5085.00	-8.1	V	3.0	39.8	1.0	-46.9	-13.0	-33.9			
1695.00	-11.0	H	3.0	38.2	1.0	-48.2	-13.0	-35.2			
2542.50	-3.8	H	3.0	38.9	1.0	-41.7	-13.0	-28.7			
3390.00	-3.6	H	3.0	39.5	1.0	-42.1	-13.0	-29.1			
4237.50	6.7	H	3.0	39.8	1.0	-32.1	-13.0	-19.1			
5085.00	-4.6	H	3.0	39.8	1.0	-43.4	-13.0	-30.4			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788371662 Date: 2018-03-07 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, 825.5MHz											
1651.00	-16.0	V	3.0	38.2	1.0	-53.2	-13.0	-40.2			
2476.50	-10.0	V	3.0	38.8	1.0	-47.8	-13.0	-34.8			
3302.00	-14.1	V	3.0	39.4	1.0	-52.6	-13.0	-39.6			
4127.50	-2.0	V	3.0	39.8	1.0	-40.8	-13.0	-27.8			
4953.00	-10.7	V	3.0	39.8	1.0	-49.5	-13.0	-36.5			
1651.00	-16.6	H	3.0	38.2	1.0	-53.8	-13.0	-40.8			
2476.50	-6.2	H	3.0	38.8	1.0	-44.0	-13.0	-31.0			
3302.00	-12.2	H	3.0	39.4	1.0	-50.6	-13.0	-37.6			
4127.50	-0.2	H	3.0	39.8	1.0	-39.0	-13.0	-26.0			
4953.00	-8.3	H	3.0	39.8	1.0	-47.1	-13.0	-34.1			
Mid Ch, 836.5MHz											
1673.00	-18.1	V	3.0	38.2	1.0	-55.4	-13.0	-42.4			
2509.50	-11.6	V	3.0	38.8	1.0	-49.4	-13.0	-36.4			
3346.00	-11.7	V	3.0	39.5	1.0	-50.2	-13.0	-37.2			
4182.50	0.0	V	3.0	39.8	1.0	-38.8	-13.0	-25.8			
5019.00	-8.3	V	3.0	39.8	1.0	-47.0	-13.0	-34.0			
1673.00	-19.3	H	3.0	38.2	1.0	-56.5	-13.0	-43.5			
2509.50	-6.9	H	3.0	38.8	1.0	-44.8	-13.0	-31.8			
3346.00	-7.8	H	3.0	39.5	1.0	-46.3	-13.0	-33.3			
4182.50	2.9	H	3.0	39.8	1.0	-35.9	-13.0	-22.9			
5019.00	-6.1	H	3.0	39.8	1.0	-44.9	-13.0	-31.9			
High Ch, 847.5MHz											
1695.00	-17.3	V	3.0	38.2	1.0	-54.5	-13.0	-41.5			
2542.50	-7.8	V	3.0	38.9	1.0	-45.6	-13.0	-32.6			
3390.00	-6.8	V	3.0	39.5	1.0	-45.3	-13.0	-32.3			
4237.50	4.2	V	3.0	39.8	1.0	-34.6	-13.0	-21.6			
5085.00	-10.1	V	3.0	39.8	1.0	-48.9	-13.0	-35.9			
1695.00	-13.0	H	3.0	38.2	1.0	-50.2	-13.0	-37.2			
2542.50	-4.5	H	3.0	38.9	1.0	-42.4	-13.0	-29.4			
3390.00	-5.0	H	3.0	39.5	1.0	-43.5	-13.0	-30.5			
4237.50	4.9	H	3.0	39.8	1.0	-33.9	-13.0	-20.9			
5085.00	-4.4	H	3.0	39.8	1.0	-43.2	-13.0	-30.2			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung									
		Project #: 4788371662									
		Date: 2018-03-02									
		Test Engineer: 47989									
		Configuration: EUT / AC Adapter / Earphone, X-Position									
		Location: Chamber 2									
		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		
Low Ch, 824.7MHz											
1649.40	-16.1	V	3.0	38.2	1.0	-53.3	-13.0	-40.3			
2474.10	-7.6	V	3.0	38.8	1.0	-45.4	-13.0	-32.4			
3298.80	-13.2	V	3.0	39.4	1.0	-51.6	-13.0	-38.6			
4123.50	-3.7	V	3.0	39.8	1.0	-42.5	-13.0	-29.5			
4948.20	-8.5	V	3.0	39.8	1.0	-47.3	-13.0	-34.3			
1649.40	-14.8	H	3.0	38.2	1.0	-52.0	-13.0	-39.0			
2474.10	-5.1	H	3.0	38.8	1.0	-42.9	-13.0	-29.9			
3298.80	-12.0	H	3.0	39.4	1.0	-50.5	-13.0	-37.5			
4123.50	-1.7	H	3.0	39.8	1.0	-40.5	-13.0	-27.5			
4948.20	-12.0	H	3.0	39.8	1.0	-50.7	-13.0	-37.7			
Mid Ch, 836.5MHz											
1673.00	-17.4	V	3.0	38.2	1.0	-54.7	-13.0	-41.7			
2509.50	-8.3	V	3.0	38.8	1.0	-46.1	-13.0	-33.1			
3346.00	-7.6	V	3.0	39.5	1.0	-46.1	-13.0	-33.1			
4182.50	3.8	V	3.0	39.8	1.0	-35.0	-13.0	-22.0			
5019.00	-5.5	V	3.0	39.8	1.0	-44.2	-13.0	-31.2			
1673.00	-16.2	H	3.0	38.2	1.0	-53.5	-13.0	-40.5			
2509.50	-7.6	H	3.0	38.8	1.0	-45.4	-13.0	-32.4			
3346.00	-6.4	H	3.0	39.5	1.0	-44.8	-13.0	-31.8			
4182.50	5.9	H	3.0	39.8	1.0	-32.9	-13.0	-19.9			
5019.00	-4.0	H	3.0	39.8	1.0	-42.7	-13.0	-29.7			
High Ch, 848.3MHz											
1696.60	-17.5	V	3.0	38.2	1.0	-54.8	-13.0	-41.8			
2544.90	-7.3	V	3.0	38.9	1.0	-45.1	-13.0	-32.1			
3393.20	-2.5	V	3.0	39.5	1.0	-40.9	-13.0	-27.9			
4241.50	4.9	V	3.0	39.8	1.0	-33.9	-13.0	-20.9			
5089.80	-7.3	V	3.0	39.8	1.0	-46.1	-13.0	-33.1			
1696.60	-16.9	H	3.0	38.2	1.0	-54.1	-13.0	-41.1			
2544.90	-5.8	H	3.0	38.9	1.0	-43.7	-13.0	-30.7			
3393.20	-3.3	H	3.0	39.5	1.0	-41.8	-13.0	-28.8			
4241.50	7.0	H	3.0	39.8	1.0	-31.8	-13.0	-18.8			
5089.80	-5.5	H	3.0	39.8	1.0	-44.3	-13.0	-31.3			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung									
		Project #: 4788371662									
		Date: 2018-03-02									
		Test Engineer: 47989									
		Configuration: EUT / AC Adapter / Earphone, X-Position									
		Location: Chamber 2									
		Mode: LTE_16QAM 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		
Low Ch, 824.7MHz											
1649.40	-17.3	V	3.0	38.2	1.0	-54.5	-13.0	-41.5			
2474.10	-6.5	V	3.0	38.8	1.0	-44.3	-13.0	-31.3			
3298.80	-14.3	V	3.0	39.4	1.0	-52.7	-13.0	-39.7			
4123.50	-5.4	V	3.0	39.8	1.0	-44.2	-13.0	-31.2			
4948.20	-8.1	V	3.0	39.8	1.0	-47.9	-13.0	-34.9			
1649.40	-16.1	H	3.0	38.2	1.0	-53.3	-13.0	-40.3			
2474.10	-6.5	H	3.0	38.8	1.0	-44.3	-13.0	-31.3			
3298.80	-13.3	H	3.0	39.4	1.0	-51.7	-13.0	-38.7			
4123.50	-2.6	H	3.0	39.8	1.0	-41.4	-13.0	-28.4			
4948.20	-12.0	H	3.0	39.8	1.0	-50.7	-13.0	-37.7			
Mid Ch, 836.5MHz											
1673.00	-18.1	V	3.0	38.2	1.0	-55.3	-13.0	-42.3			
2509.50	-7.1	V	3.0	38.8	1.0	-45.0	-13.0	-32.0			
3346.00	-8.2	V	3.0	39.5	1.0	-46.6	-13.0	-33.6			
4182.50	2.7	V	3.0	39.8	1.0	-36.1	-13.0	-23.1			
5019.00	-8.1	V	3.0	39.8	1.0	-46.9	-13.0	-33.9			
1673.00	-15.8	H	3.0	38.2	1.0	-53.0	-13.0	-40.0			
2509.50	-7.2	H	3.0	38.8	1.0	-45.1	-13.0	-32.1			
3346.00	-8.6	H	3.0	39.5	1.0	-47.1	-13.0	-34.1			
4182.50	4.7	H	3.0	39.8	1.0	-34.1	-13.0	-21.1			
5019.00	-6.8	H	3.0	39.8	1.0	-45.6	-13.0	-32.6			
High Ch, 848.3MHz											
1696.60	-17.9	V	3.0	38.2	1.0	-55.2	-13.0	-42.2			
2544.90	-8.2	V	3.0	38.9	1.0	-46.1	-13.0	-33.1			
3393.20	-4.7	V	3.0	39.5	1.0	-43.1	-13.0	-30.1			
4241.50	4.0	V	3.0	39.8	1.0	-34.8	-13.0	-21.8			
5089.80	-8.3	V	3.0	39.8	1.0	-47.1	-13.0	-34.1			
1696.60	-16.5	H	3.0	38.2	1.0	-53.7	-13.0	-40.7			
2544.90	-4.8	H	3.0	38.9	1.0	-42.6	-13.0	-29.6			
3393.20	-5.9	H	3.0	39.5	1.0	-44.4	-13.0	-31.4			
4241.50	8.1	H	3.0	39.8	1.0	-30.7	-13.0	-17.7			
5089.80	-6.1	H	3.0	39.8	1.0	-44.9	-13.0	-31.9			

LTE Band 41

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371667 Date: 2018-03-20 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
LTE										
Band 41										
20MHz										
QPSK										
Low Ch, 2506MHz										
5012.00	-2.5	V	3.0	40.1	1.0	-41.6	-25.0	-16.6		
7518.00	-8.7	V	3.0	40.0	1.0	-47.8	-25.0	-22.8		
10024.00	-5.1	V	3.0	40.2	1.0	-44.3	-25.0	-19.3		
5012.00	-6.9	H	3.0	40.1	1.0	-46.0	-25.0	-21.0		
7518.00	-9.7	H	3.0	40.0	1.0	-48.8	-25.0	-23.8		
10024.00	-5.1	H	3.0	40.2	1.0	-44.3	-25.0	-19.3		
Mid Ch, 2593MHz										
5186.00	-2.4	V	3.0	40.1	1.0	-41.5	-25.0	-16.5		
7779.00	-8.2	V	3.0	40.0	1.0	-47.3	-25.0	-22.3		
10372.00	-5.6	V	3.0	40.1	1.0	-44.7	-25.0	-19.7		
5186.00	-2.2	H	3.0	40.1	1.0	-41.3	-25.0	-16.3		
7779.00	-10.1	H	3.0	40.0	1.0	-49.2	-25.0	-24.2		
10372.00	-5.9	H	3.0	40.1	1.0	-45.0	-25.0	-20.0		
High Ch, 2680MHz										
5360.00	-4.1	V	3.0	40.1	1.0	-43.2	-25.0	-18.2		
8040.00	-5.0	V	3.0	40.0	1.0	-44.1	-25.0	-19.1		
10720.00	-4.5	V	3.0	40.0	1.0	-43.5	-25.0	-18.5		
5360.00	-4.0	H	3.0	40.1	1.0	-43.1	-25.0	-18.1		
8040.00	-8.0	H	3.0	40.0	1.0	-47.0	-25.0	-22.0		
10720.00	-5.8	H	3.0	40.0	1.0	-44.8	-25.0	-19.8		
LTE										
Band 41										
20MHz										
16QAM										
Low Ch, 2506MHz										
5012.00	-1.8	V	3.0	40.1	1.0	-40.9	-25.0	-15.9		
7518.00	-8.7	V	3.0	40.0	1.0	-47.8	-25.0	-22.8		
10024.00	-5.6	V	3.0	40.2	1.0	-44.8	-25.0	-19.8		
5012.00	-6.7	H	3.0	40.1	1.0	-45.8	-25.0	-20.8		
7518.00	-9.2	H	3.0	40.0	1.0	-48.3	-25.0	-23.3		
10024.00	-5.5	H	3.0	40.2	1.0	-44.7	-25.0	-19.7		
Mid Ch, 2593MHz										
5186.00	-2.9	V	3.0	40.1	1.0	-42.0	-25.0	-17.0		
7779.00	-9.1	V	3.0	40.0	1.0	-48.2	-25.0	-23.2		
10372.00	-5.9	V	3.0	40.1	1.0	-45.0	-25.0	-20.0		
5186.00	-2.9	H	3.0	40.1	1.0	-42.1	-25.0	-17.1		
7779.00	-10.4	H	3.0	40.0	1.0	-49.4	-25.0	-24.4		
10372.00	-6.6	H	3.0	40.1	1.0	-45.7	-25.0	-20.7		
High Ch, 2680MHz										
5360.00	-3.8	V	3.0	40.1	1.0	-42.9	-25.0	-17.9		
8040.00	-6.3	V	3.0	40.0	1.0	-45.4	-25.0	-20.4		
10720.00	-4.0	V	3.0	40.0	1.0	-43.0	-25.0	-18.0		
5360.00	-4.9	H	3.0	40.1	1.0	-44.0	-25.0	-19.0		
8040.00	-8.7	H	3.0	40.0	1.0	-47.8	-25.0	-22.8		
10720.00	-5.5	H	3.0	40.0	1.0	-44.5	-25.0	-19.5		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 41 15MHz QPSK	Company: Samsung Project #: 4788371667 Date: 2018-03-20 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 2503.5MHz										
	5007.00	-5.0	V	3.0	40.1	1.0	-44.2	-25.0	-19.2		
	7510.50	-9.3	V	3.0	40.0	1.0	-48.3	-25.0	-23.3		
	10014.00	-5.0	V	3.0	40.2	1.0	-44.1	-25.0	-19.1		
	Mid Ch, 2593MHz										
	5186.00	-4.7	V	3.0	40.1	1.0	-43.8	-25.0	-18.8		
	7779.00	-8.7	V	3.0	40.0	1.0	-47.7	-25.0	-22.7		
	10372.00	-6.5	V	3.0	40.1	1.0	-45.6	-25.0	-20.6		
	5186.00	-3.1	H	3.0	40.1	1.0	-42.3	-25.0	-17.3		
	7779.00	-10.4	H	3.0	40.0	1.0	-49.4	-25.0	-24.4		
	10372.00	-6.7	H	3.0	40.1	1.0	-45.8	-25.0	-20.8		
	High Ch, 2682.5MHz										
	5365.00	-3.0	V	3.0	40.1	1.0	-42.1	-25.0	-17.1		
	8047.50	-6.1	V	3.0	40.0	1.0	-45.1	-25.0	-20.1		
	10730.00	-4.6	V	3.0	40.0	1.0	-43.6	-25.0	-18.6		
	5365.00	-3.7	H	3.0	40.1	1.0	-42.8	-25.0	-17.8		
	8047.50	-7.7	H	3.0	40.0	1.0	-46.7	-25.0	-21.7		
	10730.00	-5.5	H	3.0	40.0	1.0	-44.5	-25.0	-19.5		
	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
	LTE Band 41 15MHz 16QAM	Company: Samsung Project #: 4788371667 Date: 2018-03-20 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 2503.5MHz									
		5007.00	-5.3	V	3.0	40.1	1.0	-44.4	-25.0	-19.4	
7510.50		-9.1	V	3.0	40.0	1.0	-48.2	-25.0	-23.2		
10014.00		-5.5	V	3.0	40.2	1.0	-44.7	-25.0	-19.7		
Mid Ch, 2593MHz											
5186.00		-5.5	V	3.0	40.1	1.0	-44.6	-25.0	-19.6		
7779.00		-8.3	V	3.0	40.0	1.0	-47.4	-25.0	-22.4		
10372.00		-6.6	V	3.0	40.1	1.0	-45.7	-25.0	-20.7		
5186.00		-4.3	H	3.0	40.1	1.0	-43.4	-25.0	-18.4		
7779.00		-10.0	H	3.0	40.0	1.0	-49.1	-25.0	-24.1		
10372.00		-7.1	H	3.0	40.1	1.0	-46.2	-25.0	-21.2		
High Ch, 2682.5MHz											
5365.00		-2.9	V	3.0	40.1	1.0	-41.9	-25.0	-16.9		
8047.50		-6.7	V	3.0	40.0	1.0	-45.7	-25.0	-20.7		
10730.00		-4.7	V	3.0	40.0	1.0	-43.7	-25.0	-18.7		
5365.00		-3.8	H	3.0	40.1	1.0	-42.8	-25.0	-17.8		
8047.50		-8.6	H	3.0	40.0	1.0	-47.6	-25.0	-22.6		
10730.00		-5.6	H	3.0	40.0	1.0	-44.6	-25.0	-19.6		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
		Company: Samsung Project #: 4788371667 Date: 2018-03-19 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth											
LTE	Band 41	10MHz	QPSK	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
				MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
				Low Ch, 2501MHz									
				5002.00	-4.6	V	3.0	40.1	1.0	-43.8	-25.0	-18.8	
				7503.00	-9.2	V	3.0	40.0	1.0	-48.2	-25.0	-23.2	
				10004.00	-5.4	V	3.0	40.2	1.0	-44.6	-25.0	-19.6	
				5002.00	-6.1	H	3.0	40.1	1.0	-45.2	-25.0	-20.2	
				7503.00	-9.0	H	3.0	40.0	1.0	-48.1	-25.0	-23.1	
				10004.00	-4.8	H	3.0	40.2	1.0	-43.9	-25.0	-18.9	
				Mid Ch, 2593MHz									
				5186.00	-2.7	V	3.0	40.1	1.0	-41.8	-25.0	-16.8	
				7779.00	-8.3	V	3.0	40.0	1.0	-47.4	-25.0	-22.4	
				10372.00	-5.5	V	3.0	40.1	1.0	-44.6	-25.0	-19.6	
				5186.00	-2.6	H	3.0	40.1	1.0	-41.8	-25.0	-16.8	
				7779.00	-10.1	H	3.0	40.0	1.0	-49.2	-25.0	-24.2	
				10372.00	-6.6	H	3.0	40.1	1.0	-45.7	-25.0	-20.7	
				High Ch, 2685MHz									
				5370.00	-2.7	V	3.0	40.1	1.0	-41.7	-25.0	-16.7	
				8055.00	-5.9	V	3.0	40.0	1.0	-44.9	-25.0	-19.9	
				10740.00	-3.5	V	3.0	40.0	1.0	-42.6	-25.0	-17.6	
				5370.00	-3.2	H	3.0	40.1	1.0	-42.3	-25.0	-17.3	
				8055.00	-7.5	H	3.0	40.0	1.0	-46.6	-25.0	-21.6	
				10740.00	-5.4	H	3.0	40.0	1.0	-44.4	-25.0	-19.4	

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
		Company: Samsung Project #: 4788371667 Date: 2018-03-19 Test Engineer: 47989 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth											
LTE	Band 41	10MHz	16QAM	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
				MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
				Low Ch, 2501MHz									
				5002.00	-5.4	V	3.0	40.1	1.0	-44.6	-25.0	-19.6	
				7503.00	-11.0	V	3.0	40.0	1.0	-50.0	-25.0	-25.0	
				10004.00	-6.0	V	3.0	40.2	1.0	-45.2	-25.0	-20.2	
				5002.00	-7.9	H	3.0	40.1	1.0	-47.0	-25.0	-22.0	
				7503.00	-8.9	H	3.0	40.0	1.0	-47.9	-25.0	-22.9	
				10004.00	-4.8	H	3.0	40.2	1.0	-44.0	-25.0	-19.0	
				Mid Ch, 2593MHz									
				5186.00	-4.3	V	3.0	40.1	1.0	-43.4	-25.0	-18.4	
				7779.00	-9.7	V	3.0	40.0	1.0	-48.7	-25.0	-23.7	
				10372.00	-6.3	V	3.0	40.1	1.0	-45.4	-25.0	-20.4	
				5186.00	-2.6	H	3.0	40.1	1.0	-41.7	-25.0	-16.7	
				7779.00	-10.6	H	3.0	40.0	1.0	-49.7	-25.0	-24.7	
				10372.00	-6.6	H	3.0	40.1	1.0	-45.7	-25.0	-20.7	
				High Ch, 2685MHz									
				5370.00	-3.0	V	3.0	40.1	1.0	-42.0	-25.0	-17.0	
				8055.00	-6.3	V	3.0	40.0	1.0	-45.3	-25.0	-20.3	
				10740.00	-4.2	V	3.0	40.0	1.0	-43.2	-25.0	-18.2	
				5370.00	-3.2	H	3.0	40.1	1.0	-42.3	-25.0	-17.3	
				8055.00	-7.7	H	3.0	40.0	1.0	-46.7	-25.0	-21.7	
				10740.00	-6.8	H	3.0	40.0	1.0	-45.8	-25.0	-20.8	

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4788371667							
		Date:	2018-03-19							
		Test Engineer:	47989							
		Configuration:	EUT / AC Adapter / Earphone, X-Position							
		Location:	Chamber 3							
		Mode:	LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2498.5MHz										
4997.00	-4.1	V	3.0	40.1	1.0	-43.3	-25.0	-18.3		
7495.50	-9.0	V	3.0	40.0	1.0	-48.0	-25.0	-23.0		
9994.00	-4.9	V	3.0	40.2	1.0	-44.1	-25.0	-19.1		
4997.00	-7.9	H	3.0	40.1	1.0	-47.0	-25.0	-22.0		
7495.50	-9.5	H	3.0	40.0	1.0	-48.6	-25.0	-23.6		
9994.00	-4.9	H	3.0	40.2	1.0	-44.1	-25.0	-19.1		
Mid Ch, 2593MHz										
5186.00	-3.4	V	3.0	40.1	1.0	-42.5	-25.0	-17.5		
7779.00	-8.5	V	3.0	40.0	1.0	-47.6	-25.0	-22.6		
10372.00	-6.0	V	3.0	40.1	1.0	-45.1	-25.0	-20.1		
5186.00	-2.4	H	3.0	40.1	1.0	-41.5	-25.0	-16.5		
7779.00	-10.1	H	3.0	40.0	1.0	-49.2	-25.0	-24.2		
10372.00	-6.0	H	3.0	40.1	1.0	-45.1	-25.0	-20.1		
High Ch, 2687.5MHz										
5375.00	-5.6	V	3.0	40.1	1.0	-44.7	-25.0	-19.7		
8062.50	-5.4	V	3.0	40.0	1.0	-44.4	-25.0	-19.4		
10750.00	-4.7	V	3.0	40.0	1.0	-43.7	-25.0	-18.7		
5375.00	-4.6	H	3.0	40.1	1.0	-43.7	-25.0	-18.7		
8062.50	-7.8	H	3.0	40.0	1.0	-46.8	-25.0	-21.8		
10750.00	-5.7	H	3.0	40.0	1.0	-44.7	-25.0	-19.7		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company:	Samsung							
		Project #:	4788371667							
		Date:	2018-03-19							
		Test Engineer:	47989							
		Configuration:	EUT / AC Adapter / Earphone, X-Position							
		Location:	Chamber 3							
		Mode:	LTE_16QAM Band 41 Harmonics, 5MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2498.5MHz										
4997.00	-4.9	V	3.0	40.1	1.0	-44.0	-25.0	-19.0		
7495.50	-9.2	V	3.0	40.0	1.0	-48.2	-25.0	-23.2		
9994.00	-5.3	V	3.0	40.2	1.0	-44.5	-25.0	-19.5		
4997.00	-8.5	H	3.0	40.1	1.0	-47.6	-25.0	-22.6		
7495.50	-9.5	H	3.0	40.0	1.0	-48.5	-25.0	-23.5		
9994.00	-5.0	H	3.0	40.2	1.0	-44.1	-25.0	-19.1		
Mid Ch, 2593MHz										
5186.00	-2.9	V	3.0	40.1	1.0	-42.0	-25.0	-17.0		
7779.00	-9.2	V	3.0	40.0	1.0	-48.3	-25.0	-23.3		
10372.00	-6.7	V	3.0	40.1	1.0	-45.8	-25.0	-20.8		
5186.00	-2.4	H	3.0	40.1	1.0	-41.5	-25.0	-16.5		
7779.00	-10.3	H	3.0	40.0	1.0	-49.3	-25.0	-24.3		
10372.00	-6.0	H	3.0	40.1	1.0	-45.1	-25.0	-20.1		
High Ch, 2687.5MHz										
5375.00	-5.6	V	3.0	40.1	1.0	-44.7	-25.0	-19.7		
8062.50	-6.3	V	3.0	40.0	1.0	-45.3	-25.0	-20.3		
10750.00	-4.6	V	3.0	40.0	1.0	-43.6	-25.0	-18.6		
5375.00	-5.2	H	3.0	40.1	1.0	-44.3	-25.0	-19.3		
8062.50	-8.3	H	3.0	40.0	1.0	-47.3	-25.0	-22.3		
10750.00	-5.4	H	3.0	40.0	1.0	-44.4	-25.0	-19.4		

LTE Band 66

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Samsung								
Project #:		4788371667								
Date:		2018-03-15								
Test Engineer:		45574								
Configuration:		EUT / AC Adapter / Earphone, X-Position								
Location:		Chamber 3								
Mode:		LTE_QPSK Band 66 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, 1720MHz										
3440.00	-14.6	V	3.0	41.0	1.0	-54.6	-13.0	-41.6		
5160.00	-13.7	V	3.0	40.1	1.0	-52.8	-13.0	-39.8		
6880.00	-12.1	V	3.0	40.0	1.0	-51.1	-13.0	-38.1		
3440.00	-12.6	H	3.0	41.0	1.0	-52.7	-13.0	-39.7		
5160.00	-13.5	H	3.0	40.1	1.0	-52.7	-13.0	-39.7		
6880.00	-12.5	H	3.0	40.0	1.0	-51.5	-13.0	-38.5		
Mid Ch, 1745MHz										
3490.00	-14.9	V	3.0	41.0	1.0	-54.9	-13.0	-41.9		
5235.00	-12.6	V	3.0	40.1	1.0	-51.7	-13.0	-38.7		
6980.00	-9.4	V	3.0	40.0	1.0	-48.4	-13.0	-35.4		
3490.00	-9.7	H	3.0	41.0	1.0	-49.7	-13.0	-36.7		
5235.00	-15.7	H	3.0	40.1	1.0	-54.8	-13.0	-41.8		
6980.00	-9.4	H	3.0	40.0	1.0	-48.5	-13.0	-35.5		
High Ch, 1770MHz										
3540.00	-14.3	V	3.0	41.0	1.0	-54.2	-13.0	-41.2		
5310.00	-13.0	V	3.0	40.1	1.0	-52.1	-13.0	-39.1		
7080.00	-11.7	V	3.0	40.0	1.0	-50.8	-13.0	-37.8		
3540.00	-11.7	H	3.0	41.0	1.0	-51.6	-13.0	-38.6		
5310.00	-13.2	H	3.0	40.1	1.0	-52.3	-13.0	-39.3		
7080.00	-13.1	H	3.0	40.0	1.0	-52.2	-13.0	-39.2		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Samsung								
Project #:		4788371667								
Date:		2018-03-15								
Test Engineer:		45574								
Configuration:		EUT / AC Adapter / Earphone, X-Position								
Location:		Chamber 3								
Mode:		LTE_16QAM Band 66 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, 1720MHz										
3440.00	-14.6	V	3.0	41.0	1.0	-54.6	-13.0	-41.6		
5160.00	-15.3	V	3.0	40.1	1.0	-54.4	-13.0	-41.4		
6880.00	-12.3	V	3.0	40.0	1.0	-51.3	-13.0	-38.3		
3440.00	-12.9	H	3.0	41.0	1.0	-53.0	-13.0	-40.0		
5160.00	-15.5	H	3.0	40.1	1.0	-54.7	-13.0	-41.7		
6880.00	-12.6	H	3.0	40.0	1.0	-51.6	-13.0	-38.6		
Mid Ch, 1745MHz										
3490.00	-14.9	V	3.0	41.0	1.0	-54.9	-13.0	-41.9		
5235.00	-14.4	V	3.0	40.1	1.0	-53.5	-13.0	-40.5		
6980.00	-12.0	V	3.0	40.0	1.0	-51.0	-13.0	-38.0		
3490.00	-9.7	H	3.0	41.0	1.0	-49.8	-13.0	-36.8		
5235.00	-15.6	H	3.0	40.1	1.0	-54.7	-13.0	-41.7		
6980.00	-11.7	H	3.0	40.0	1.0	-50.8	-13.0	-37.8		
High Ch, 1770MHz										
3540.00	-16.5	V	3.0	41.0	1.0	-56.4	-13.0	-43.4		
5310.00	-13.1	V	3.0	40.1	1.0	-52.2	-13.0	-39.2		
7080.00	-11.8	V	3.0	40.0	1.0	-50.8	-13.0	-37.8		
3540.00	-12.7	H	3.0	41.0	1.0	-52.7	-13.0	-39.7		
5310.00	-14.9	H	3.0	40.1	1.0	-54.0	-13.0	-41.0		
7080.00	-12.9	H	3.0	40.0	1.0	-51.9	-13.0	-38.9		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
		Company: Samsung Project #: 4788371667 Date: 2018-03-15 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 Harmonics, 15MHz Bandwidth											
LTE	Band 66	15MHz	QPSK	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
				MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
		Low Ch, 1717.5MHz											
		3435.00 -14.1 V 3.0 41.0 1.0 -54.1 -13.0 -41.1											
		5152.50 -14.6 V 3.0 40.1 1.0 -53.7 -13.0 -40.7											
		6870.00 -11.6 V 3.0 40.0 1.0 -50.7 -13.0 -37.7											
		3435.00 -11.7 H 3.0 41.0 1.0 -51.7 -13.0 -38.7											
		5152.50 -15.0 H 3.0 40.1 1.0 -54.1 -13.0 -41.1											
		6870.00 -12.6 H 3.0 40.0 1.0 -51.6 -13.0 -38.6											
		Mid Ch, 1745MHz											
		3490.00 -14.9 V 3.0 41.0 1.0 -54.9 -13.0 -41.9											
		5235.00 -12.3 V 3.0 40.1 1.0 -51.4 -13.0 -38.4											
		6980.00 -9.3 V 3.0 40.0 1.0 -48.3 -13.0 -35.3											
		3490.00 -9.6 H 3.0 41.0 1.0 -49.7 -13.0 -36.7											
		5235.00 -15.7 H 3.0 40.1 1.0 -54.8 -13.0 -41.8											
		6980.00 -12.0 H 3.0 40.0 1.0 -51.0 -13.0 -38.0											
		High Ch, 1772.5MHz											
		3545.00 -14.6 V 3.0 41.0 1.0 -54.6 -13.0 -41.6											
		5317.50 -10.2 V 3.0 40.1 1.0 -49.3 -13.0 -36.3											
		7090.00 -11.5 V 3.0 40.0 1.0 -50.6 -13.0 -37.6											
		3545.00 -10.7 H 3.0 41.0 1.0 -50.6 -13.0 -37.6											
		5317.50 -13.9 H 3.0 40.1 1.0 -53.0 -13.0 -40.0											
		7090.00 -13.3 H 3.0 40.0 1.0 -52.4 -13.0 -39.4											
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
		Company: Samsung Project #: 4788371667 Date: 2018-03-15 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 Harmonics, 15MHz Bandwidth											
LTE	Band 66	15MHz	16QAM	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
				MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
		Low Ch, 1717.5MHz											
		3435.00 -14.8 V 3.0 41.0 1.0 -54.9 -13.0 -41.9											
		5152.50 -15.0 V 3.0 40.1 1.0 -54.1 -13.0 -41.1											
		6870.00 -12.4 V 3.0 40.0 1.0 -51.4 -13.0 -38.4											
		3435.00 -11.6 H 3.0 41.0 1.0 -51.7 -13.0 -38.7											
		5152.50 -16.1 H 3.0 40.1 1.0 -55.2 -13.0 -42.2											
		6870.00 -12.8 H 3.0 40.0 1.0 -51.8 -13.0 -38.8											
		Mid Ch, 1745MHz											
		3490.00 -15.0 V 3.0 41.0 1.0 -55.0 -13.0 -42.0											
		5235.00 -9.7 V 3.0 40.1 1.0 -48.8 -13.0 -35.8											
		6980.00 -10.9 V 3.0 40.0 1.0 -50.0 -13.0 -37.0											
		3490.00 -9.3 H 3.0 41.0 1.0 -49.3 -13.0 -36.3											
		5235.00 -16.0 H 3.0 40.1 1.0 -55.1 -13.0 -42.1											
		6980.00 -11.5 H 3.0 40.0 1.0 -50.6 -13.0 -37.6											
		High Ch, 1772.5MHz											
		3545.00 -15.3 V 3.0 41.0 1.0 -55.3 -13.0 -42.3											
		5317.50 -13.6 V 3.0 40.1 1.0 -52.7 -13.0 -39.7											
		7090.00 -11.1 V 3.0 40.0 1.0 -50.1 -13.0 -37.1											
		3545.00 -11.5 H 3.0 41.0 1.0 -51.5 -13.0 -38.5											
		5317.50 -15.3 H 3.0 40.1 1.0 -54.4 -13.0 -41.4											
		7090.00 -13.1 H 3.0 40.0 1.0 -52.1 -13.0 -39.1											