

LTE Band 2 5MHz QPSK	UL Verification Services, Inc. High Frequency Substitution Measurement																																																																																																	
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LTE Band 13

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	Project #: 4788371689																																																																																																					
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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 $43 + 10 \log_{10} (P)$ 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 30MHz – 1GHz.

RESULTS

10.2.1. SPURIOUS RADIATION PLOTS

GSM 850

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM850 GPRS	Company:	Samsung								
	Project #:	4788372835								
	Date:	2018-03-05								
	Test Engineer:	45585								
	Configuration:	EUT / 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	-1.5	V	3.0	38.2	1.0	-38.8	-13.0	-25.8	
	2472.60	-2.9	V	3.0	38.8	1.0	-40.7	-13.0	-27.7	
	3296.80	-14.8	V	3.0	39.4	1.0	-53.2	-13.0	-40.2	
	1648.40	2.0	H	3.0	38.2	1.0	-35.2	-13.0	-22.2	
	2472.60	-2.2	H	3.0	38.8	1.0	-40.0	-13.0	-27.0	
	3296.80	-14.1	H	3.0	39.4	1.0	-52.6	-13.0	-39.6	
	Mid Ch, 836.6MHz									
	1673.20	-0.4	V	3.0	38.2	1.0	-37.6	-13.0	-24.6	
	2509.80	-5.6	V	3.0	38.8	1.0	-43.5	-13.0	-30.5	
	3346.40	-14.1	V	3.0	39.5	1.0	-52.6	-13.0	-39.6	
	1673.20	1.1	H	3.0	38.2	1.0	-36.1	-13.0	-23.1	
2509.80	-5.4	H	3.0	38.8	1.0	-43.2	-13.0	-30.2		
3346.40	-13.9	H	3.0	39.5	1.0	-52.3	-13.0	-39.3		
High Ch, 848.8MHz										
1697.60	-1.1	V	3.0	38.2	1.0	-38.3	-13.0	-25.3		
2546.40	-7.3	V	3.0	38.9	1.0	-45.2	-13.0	-32.2		
3395.20	-13.0	V	3.0	39.5	1.0	-51.5	-13.0	-38.5		
1697.60	3.2	H	3.0	38.2	1.0	-34.1	-13.0	-21.1		
2546.40	-6.9	H	3.0	38.9	1.0	-44.8	-13.0	-31.8		
3395.20	-13.2	H	3.0	39.5	1.0	-51.7	-13.0	-38.7		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM850 EGPRS	Company:	Samsung								
	Project #:	4788372835								
	Date:	2018-03-05								
	Test Engineer:	45585								
	Configuration:	EUT / 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	-3.6	V	3.0	38.2	1.0	-40.8	-13.0	-27.8	
	2472.60	-9.9	V	3.0	38.8	1.0	-47.7	-13.0	-34.7	
	3296.80	-15.2	V	3.0	39.4	1.0	-53.7	-13.0	-40.7	
	1648.40	0.1	H	3.0	38.2	1.0	-37.1	-13.0	-24.1	
	2472.60	-8.2	H	3.0	38.8	1.0	-46.0	-13.0	-33.0	
	3296.80	-14.3	H	3.0	39.4	1.0	-52.8	-13.0	-39.8	
	Mid Ch, 836.6MHz									
	1673.20	-2.3	V	3.0	38.2	1.0	-39.5	-13.0	-26.5	
	2509.80	-11.9	V	3.0	38.8	1.0	-49.7	-13.0	-36.7	
	3346.40	-13.4	V	3.0	39.5	1.0	-51.9	-13.0	-38.9	
	1673.20	-0.5	H	3.0	38.2	1.0	-37.7	-13.0	-24.7	
2509.80	-11.5	H	3.0	38.8	1.0	-49.4	-13.0	-36.4		
3346.40	-14.2	H	3.0	39.5	1.0	-52.6	-13.0	-39.6		
High Ch, 848.8MHz										
1697.60	-2.7	V	3.0	38.2	1.0	-39.9	-13.0	-26.9		
2546.40	-11.5	V	3.0	38.9	1.0	-49.4	-13.0	-36.4		
3395.20	-12.7	V	3.0	39.5	1.0	-51.2	-13.0	-38.2		
1697.60	2.0	H	3.0	38.2	1.0	-35.3	-13.0	-22.3		
2546.40	-11.0	H	3.0	38.9	1.0	-48.9	-13.0	-35.9		
3395.20	-13.2	H	3.0	39.5	1.0	-51.7	-13.0	-38.7		

GSM 1900

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM1900 GPRS		Company: Samsung Project #: 4788372835 Date: 2018-03-09 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 1 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)
		Low Ch, 1850.2MHz								
	3700.40	-4.9	V	3.0	43.8	1.0	-47.7	-13.0	-34.7	
	5550.60	-5.5	V	3.0	43.7	1.0	-48.2	-13.0	-35.2	
	7400.80	-5.5	V	3.0	42.5	1.0	-47.1	-13.0	-34.1	
	3700.40	-5.4	H	3.0	43.8	1.0	-48.2	-13.0	-35.2	
	5550.60	-6.0	H	3.0	43.7	1.0	-48.7	-13.0	-35.7	
	7400.80	-4.8	H	3.0	42.5	1.0	-46.4	-13.0	-33.4	
		Mid Ch, 1880MHz								
	3760.00	-4.7	V	3.0	43.8	1.0	-47.5	-13.0	-34.5	
	5640.00	-5.3	V	3.0	43.7	1.0	-48.0	-13.0	-35.0	
	7520.00	-4.4	V	3.0	42.5	1.0	-45.9	-13.0	-32.9	
	3760.00	-6.0	H	3.0	43.8	1.0	-48.8	-13.0	-35.8	
	5640.00	-5.8	H	3.0	43.7	1.0	-48.5	-13.0	-35.5	
	7520.00	-2.3	H	3.0	42.5	1.0	-43.8	-13.0	-30.8	
		High Ch, 1909.8MHz								
	3819.60	-4.6	V	3.0	43.8	1.0	-47.4	-13.0	-34.4	
	5729.40	-4.2	V	3.0	43.7	1.0	-46.9	-13.0	-33.9	
	7639.20	-3.6	V	3.0	42.4	1.0	-45.0	-13.0	-32.0	
	3819.60	-5.2	H	3.0	43.8	1.0	-48.0	-13.0	-35.0	
	5729.40	-4.8	H	3.0	43.7	1.0	-47.5	-13.0	-34.5	
	7639.20	-3.3	H	3.0	42.4	1.0	-44.7	-13.0	-31.7	
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
GSM GSM1900 EGPRS		Company: Samsung Project #: 4788372835 Date: 2018-03-09 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 1 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)
		Low Ch, 1850.2MHz								
	3700.40	-7.2	V	3.0	43.8	1.0	-50.0	-13.0	-37.0	
	5550.60	-5.5	V	3.0	43.7	1.0	-48.2	-13.0	-35.2	
	7400.80	-6.0	V	3.0	42.5	1.0	-47.5	-13.0	-34.5	
	3700.40	-7.7	H	3.0	43.8	1.0	-50.4	-13.0	-37.4	
	5550.60	-5.5	H	3.0	43.7	1.0	-48.2	-13.0	-35.2	
	7400.80	-3.4	H	3.0	42.5	1.0	-45.0	-13.0	-32.0	
		Mid Ch, 1880MHz								
	3760.00	-7.1	V	3.0	43.8	1.0	-49.9	-13.0	-36.9	
	5640.00	-5.5	V	3.0	43.7	1.0	-48.2	-13.0	-35.2	
	7520.00	-5.1	V	3.0	42.5	1.0	-46.6	-13.0	-33.6	
	3760.00	-7.3	H	3.0	43.8	1.0	-50.1	-13.0	-37.1	
	5640.00	-4.6	H	3.0	43.7	1.0	-47.3	-13.0	-34.3	
	7520.00	-5.3	H	3.0	42.5	1.0	-46.7	-13.0	-33.7	
		High Ch, 1909.8MHz								
	3819.60	-5.3	V	3.0	43.8	1.0	-48.1	-13.0	-35.1	
	5729.40	-4.2	V	3.0	43.7	1.0	-46.9	-13.0	-33.9	
	7639.20	-4.5	V	3.0	42.4	1.0	-45.9	-13.0	-32.9	
	3819.60	-6.4	H	3.0	43.8	1.0	-49.2	-13.0	-36.2	
	5729.40	-4.6	H	3.0	43.7	1.0	-47.3	-13.0	-34.3	
	7639.20	-4.3	H	3.0	42.4	1.0	-45.7	-13.0	-32.7	

WCDMA Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
WCDMA Band 5 REL99	Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 Mode: Rel99 Band 5 Harmonics										
	Low Ch, 826.4MHz 1652.80 -9.3 V 3.0 43.6 1.0 -51.9 -13.0 -38.9 2479.20 -9.5 V 3.0 43.4 1.0 -51.9 -13.0 -38.9 3305.60 -8.1 V 3.0 43.6 1.0 -50.7 -13.0 -37.7 1652.80 -8.2 H 3.0 43.6 1.0 -50.8 -13.0 -37.8 2479.20 -8.5 H 3.0 43.4 1.0 -50.9 -13.0 -37.9 3305.60 -7.6 H 3.0 43.6 1.0 -50.2 -13.0 -37.2										
	Mid Ch, 836.6MHz 1673.20 -9.7 V 3.0 43.6 1.0 -52.2 -13.0 -39.2 2509.80 -9.5 V 3.0 43.4 1.0 -51.9 -13.0 -38.9 3346.40 -8.7 V 3.0 43.6 1.0 -51.3 -13.0 -38.3 1673.20 -10.0 H 3.0 43.6 1.0 -52.5 -13.0 -39.5 2509.80 -10.0 H 3.0 43.4 1.0 -52.4 -13.0 -39.4 3346.40 -7.9 H 3.0 43.6 1.0 -50.5 -13.0 -37.5										
	High Ch, 846.6MHz 1693.20 -8.6 V 3.0 43.6 1.0 -51.2 -13.0 -38.2 2539.80 -9.6 V 3.0 43.4 1.0 -52.0 -13.0 -39.0 3386.40 -8.4 V 3.0 43.7 1.0 -51.0 -13.0 -38.0 1693.20 -9.6 H 3.0 43.6 1.0 -52.1 -13.0 -39.1 2539.80 -9.5 H 3.0 43.4 1.0 -51.9 -13.0 -38.9 3386.40 -7.7 H 3.0 43.7 1.0 -50.4 -13.0 -37.4										
	WCDMA Band 5 HSDPA	Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 Mode: HSDPA Band 5 Harmonics									
		Low Ch, 826.4MHz 1652.80 -10.0 V 3.0 43.6 1.0 -52.6 -13.0 -39.6 2479.20 -9.8 V 3.0 43.4 1.0 -52.2 -13.0 -39.2 3305.60 -8.1 V 3.0 43.6 1.0 -50.8 -13.0 -37.8 1652.80 -9.6 H 3.0 43.6 1.0 -52.2 -13.0 -39.2 2479.20 -9.7 H 3.0 43.4 1.0 -52.1 -13.0 -39.1 3305.60 -7.6 H 3.0 43.6 1.0 -50.3 -13.0 -37.3									
		Mid Ch, 836.6MHz 1673.20 -10.1 V 3.0 43.6 1.0 -52.6 -13.0 -39.6 2509.80 -9.5 V 3.0 43.4 1.0 -51.9 -13.0 -38.9 3346.40 -8.4 V 3.0 43.6 1.0 -51.1 -13.0 -38.1 1673.20 -10.6 H 3.0 43.6 1.0 -53.2 -13.0 -40.2 2509.80 -9.8 H 3.0 43.4 1.0 -52.2 -13.0 -39.2 3346.40 -7.9 H 3.0 43.6 1.0 -50.5 -13.0 -37.5									
		High Ch, 846.6MHz 1693.20 -10.2 V 3.0 43.6 1.0 -52.8 -13.0 -39.8 2539.80 -9.3 V 3.0 43.4 1.0 -51.7 -13.0 -38.7 3386.40 -8.1 V 3.0 43.7 1.0 -50.8 -13.0 -37.8 1693.20 -10.0 H 3.0 43.6 1.0 -52.6 -13.0 -39.6 2539.80 -9.2 H 3.0 43.4 1.0 -51.6 -13.0 -38.6 3386.40 -7.8 H 3.0 43.7 1.0 -50.4 -13.0 -37.4									

WCDMA Band 2

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788372835 Date: 2018-02-25 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 1 Mode: Rel99 Band 2 Harmonics									
WCDMA	Band 2 REL99	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
		MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
		Low Ch, 1852.4MHz									
		3704.80	-10.7	V	3.0	43.8	1.0	-53.5	-13.0	-40.5	
		5557.20	-8.2	V	3.0	43.7	1.0	-50.9	-13.0	-37.9	
		7409.60	-8.1	V	3.0	42.5	1.0	-49.6	-13.0	-36.6	
		3704.80	-10.1	H	3.0	43.8	1.0	-52.9	-13.0	-39.9	
		5557.20	-8.3	H	3.0	43.7	1.0	-51.0	-13.0	-38.0	
		7409.60	-7.7	H	3.0	42.5	1.0	-49.2	-13.0	-36.2	
		Mid Ch, 1880MHz									
		3760.00	-9.6	V	3.0	43.8	1.0	-52.4	-13.0	-39.4	
		5640.00	-7.7	V	3.0	43.7	1.0	-50.4	-13.0	-37.4	
		7520.00	-7.4	V	3.0	42.5	1.0	-48.9	-13.0	-35.9	
		3760.00	-9.2	H	3.0	43.8	1.0	-51.9	-13.0	-38.9	
		5640.00	-7.9	H	3.0	43.7	1.0	-50.6	-13.0	-37.6	
		7520.00	-7.0	H	3.0	42.5	1.0	-48.4	-13.0	-35.4	
		High Ch, 1907.6MHz									
		3815.20	-10.8	V	3.0	43.8	1.0	-53.6	-13.0	-40.6	
		5722.80	-7.7	V	3.0	43.7	1.0	-50.4	-13.0	-37.4	
		7630.40	-7.9	V	3.0	42.4	1.0	-49.3	-13.0	-36.3	
		3815.20	-10.9	H	3.0	43.8	1.0	-53.7	-13.0	-40.7	
		5722.80	-7.3	H	3.0	43.7	1.0	-50.0	-13.0	-37.0	
		7630.40	-7.2	H	3.0	42.4	1.0	-48.6	-13.0	-35.6	
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788372835 Date: 2018-03-08 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 1 Mode: HSDPA Band 2 Harmonics									
WCDMA	Band 2 HSDPA	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
		MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
		Low Ch, 1852.4MHz									
		3704.80	-10.6	V	3.0	43.8	1.0	-53.3	-13.0	-40.3	
		5557.20	-7.8	V	3.0	43.7	1.0	-50.5	-13.0	-37.5	
		7409.60	-8.8	V	3.0	42.5	1.0	-50.3	-13.0	-37.3	
		3704.80	-10.2	H	3.0	43.8	1.0	-53.0	-13.0	-40.0	
		5557.20	-6.4	H	3.0	43.7	1.0	-49.1	-13.0	-36.1	
		7409.60	-6.8	H	3.0	42.5	1.0	-48.4	-13.0	-35.4	
		Mid Ch, 1880MHz									
		3760.00	-9.3	V	3.0	43.8	1.0	-52.1	-13.0	-39.1	
		5640.00	-7.7	V	3.0	43.7	1.0	-50.4	-13.0	-37.4	
		7520.00	-7.7	V	3.0	42.5	1.0	-49.2	-13.0	-36.2	
		3760.00	-9.9	H	3.0	43.8	1.0	-52.7	-13.0	-39.7	
		5640.00	-7.8	H	3.0	43.7	1.0	-50.5	-13.0	-37.5	
		7520.00	-6.5	H	3.0	42.5	1.0	-48.0	-13.0	-35.0	
		High Ch, 1907.6MHz									
		3815.20	-10.6	V	3.0	43.8	1.0	-53.4	-13.0	-40.4	
		5722.80	-6.9	V	3.0	43.7	1.0	-49.6	-13.0	-36.6	
		7630.40	-7.3	V	3.0	42.4	1.0	-48.7	-13.0	-35.7	
		3815.20	-10.4	H	3.0	43.8	1.0	-53.2	-13.0	-40.2	
		5722.80	-6.8	H	3.0	43.7	1.0	-49.5	-13.0	-36.5	
		7630.40	-6.6	H	3.0	42.4	1.0	-48.0	-13.0	-35.0	

LTE Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung Project #: 4788372835 Date: 2018-03-05 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 1 Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth										
LTE Band 5 10MHz QPSK		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 829MHz											
		1658.00	-8.9	V	3.0	43.6	1.0	-51.5	-13.0	-38.5		
		2487.00	-8.4	V	3.0	43.4	1.0	-50.9	-13.0	-37.9		
		3316.00	-9.0	V	3.0	43.6	1.0	-51.6	-13.0	-38.6		
		1658.00	-8.4	H	3.0	43.6	1.0	-51.0	-13.0	-38.0		
		2487.00	-9.2	H	3.0	43.4	1.0	-51.6	-13.0	-38.6		
		3316.00	-8.1	H	3.0	43.6	1.0	-50.7	-13.0	-37.7		
	Mid Ch, 836.5MHz											
		1673.00	-10.1	V	3.0	43.6	1.0	-52.7	-13.0	-39.7		
		2509.50	-6.4	V	3.0	43.4	1.0	-48.8	-13.0	-35.8		
		3346.00	-8.4	V	3.0	43.6	1.0	-51.1	-13.0	-38.1		
		1673.00	-9.9	H	3.0	43.6	1.0	-52.4	-13.0	-39.4		
		2509.50	-7.6	H	3.0	43.4	1.0	-50.1	-13.0	-37.1		
		3346.00	-8.1	H	3.0	43.6	1.0	-50.8	-13.0	-37.8		
	High Ch, 844MHz											
		1688.00	-9.8	V	3.0	43.6	1.0	-52.4	-13.0	-39.4		
		2532.00	-9.5	V	3.0	43.4	1.0	-52.0	-13.0	-39.0		
		3376.00	-8.7	V	3.0	43.7	1.0	-51.4	-13.0	-38.4		
		1688.00	-9.4	H	3.0	43.6	1.0	-51.9	-13.0	-38.9		
		2532.00	-8.8	H	3.0	43.4	1.0	-51.2	-13.0	-38.2		
		3376.00	-8.7	H	3.0	43.7	1.0	-51.4	-13.0	-38.4		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
			Company: Samsung Project #: 4788372835 Date: 2018-03-05 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 1 Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth									
	LTE Band 5 10MHz 16QAM		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829MHz												
		1658.00	-8.5	V	3.0	43.6	1.0	-51.1	-13.0	-38.1		
		2487.00	-9.3	V	3.0	43.4	1.0	-51.7	-13.0	-38.7		
		3316.00	-8.9	V	3.0	43.6	1.0	-51.6	-13.0	-38.6		
		1658.00	-7.6	H	3.0	43.6	1.0	-50.2	-13.0	-37.2		
		2487.00	-8.3	H	3.0	43.4	1.0	-50.7	-13.0	-37.7		
		3316.00	-8.2	H	3.0	43.6	1.0	-50.8	-13.0	-37.8		
Mid Ch, 836.5MHz												
		1673.00	-9.9	V	3.0	43.6	1.0	-52.4	-13.0	-39.4		
		2509.50	-6.2	V	3.0	43.4	1.0	-48.6	-13.0	-35.6		
		3346.00	-8.3	V	3.0	43.6	1.0	-51.0	-13.0	-38.0		
		1673.00	-9.6	H	3.0	43.6	1.0	-52.2	-13.0	-39.2		
		2509.50	-7.0	H	3.0	43.4	1.0	-49.4	-13.0	-36.4		
		3346.00	-7.6	H	3.0	43.6	1.0	-50.2	-13.0	-37.2		
High Ch, 844MHz												
		1688.00	-9.7	V	3.0	43.6	1.0	-52.2	-13.0	-39.2		
		2532.00	-9.1	V	3.0	43.4	1.0	-51.6	-13.0	-38.6		
		3376.00	-9.1	V	3.0	43.7	1.0	-51.7	-13.0	-38.7		
		1688.00	-9.5	H	3.0	43.6	1.0	-52.1	-13.0	-39.1		
		2532.00	-8.7	H	3.0	43.4	1.0	-51.2	-13.0	-38.2		
		3376.00	-8.4	H	3.0	43.7	1.0	-51.0	-13.0	-38.0		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788372835 Date: 2018-03-05 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 1 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	-8.8	V	3.0	43.6	1.0	-51.3	-13.0	-38.3	
2479.50	-9.3	V	3.0	43.4	1.0	-51.7	-13.0	-38.7	
3306.00	-8.4	V	3.0	43.6	1.0	-51.0	-13.0	-38.0	
1653.00	-7.0	H	3.0	43.6	1.0	-49.5	-13.0	-36.5	
2479.50	-7.9	H	3.0	43.4	1.0	-50.3	-13.0	-37.3	
3306.00	-8.1	H	3.0	43.6	1.0	-50.8	-13.0	-37.8	
Mid Ch, 836.5MHz									
1673.00	-9.9	V	3.0	43.6	1.0	-52.4	-13.0	-39.4	
2509.50	-7.0	V	3.0	43.4	1.0	-49.4	-13.0	-36.4	
3346.00	-9.2	V	3.0	43.6	1.0	-51.9	-13.0	-38.9	
1673.00	-9.7	H	3.0	43.6	1.0	-52.2	-13.0	-39.2	
2509.50	-7.4	H	3.0	43.4	1.0	-49.8	-13.0	-36.8	
3346.00	-7.8	H	3.0	43.6	1.0	-50.4	-13.0	-37.4	
High Ch, 846.5MHz									
1693.00	-11.1	V	3.0	43.6	1.0	-53.7	-13.0	-40.7	
2539.50	-8.6	V	3.0	43.4	1.0	-51.0	-13.0	-38.0	
3386.00	-7.1	V	3.0	43.7	1.0	-49.7	-13.0	-36.7	
1693.00	-11.2	H	3.0	43.6	1.0	-53.8	-13.0	-40.8	
2539.50	-8.3	H	3.0	43.4	1.0	-50.7	-13.0	-37.7	
3386.00	-8.7	H	3.0	43.7	1.0	-51.4	-13.0	-38.4	
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788372835 Date: 2018-03-05 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 1 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)	Delta (dB)	Notes
LTE Band 5 5MHz 16QAM									
Low Ch, 826.5MHz									
1653.00	-8.1	V	3.0	43.6	1.0	-50.7	-13.0	-37.7	
2479.50	-8.7	V	3.0	43.4	1.0	-51.1	-13.0	-38.1	
3306.00	-8.6	V	3.0	43.6	1.0	-51.2	-13.0	-38.2	
1653.00	-7.5	H	3.0	43.6	1.0	-50.1	-13.0	-37.1	
2479.50	-7.6	H	3.0	43.4	1.0	-50.0	-13.0	-37.0	
3306.00	-7.8	H	3.0	43.6	1.0	-50.4	-13.0	-37.4	
Mid Ch, 836.5MHz									
1673.00	-9.8	V	3.0	43.6	1.0	-52.4	-13.0	-39.4	
2509.50	-6.9	V	3.0	43.4	1.0	-49.3	-13.0	-36.3	
3346.00	-9.3	V	3.0	43.6	1.0	-51.9	-13.0	-38.9	
1673.00	-9.7	H	3.0	43.6	1.0	-52.3	-13.0	-39.3	
2509.50	-7.4	H	3.0	43.4	1.0	-49.9	-13.0	-36.9	
3346.00	-8.2	H	3.0	43.6	1.0	-50.9	-13.0	-37.9	
High Ch, 846.5MHz									
1693.00	-11.1	V	3.0	43.6	1.0	-53.7	-13.0	-40.7	
2539.50	-8.5	V	3.0	43.4	1.0	-50.9	-13.0	-37.9	
3386.00	-8.4	V	3.0	43.7	1.0	-51.1	-13.0	-38.1	
1693.00	-10.5	H	3.0	43.6	1.0	-53.1	-13.0	-40.1	
2539.50	-8.8	H	3.0	43.4	1.0	-51.2	-13.0	-38.2	
3386.00	-9.0	H	3.0	43.7	1.0	-51.7	-13.0	-38.7	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 5 3MHz QPSK	Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 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	-6.8	V	3.0	43.6	1.0	-49.4	-13.0	-36.4		
	2476.50	-7.6	V	3.0	43.4	1.0	-50.0	-13.0	-37.0		
	3302.00	-7.3	V	3.0	43.6	1.0	-49.9	-13.0	-36.9		
	Mid Ch, 836.5MHz										
	1673.00	-9.3	V	3.0	43.6	1.0	-51.9	-13.0	-38.9		
	2509.50	-5.8	V	3.0	43.4	1.0	-48.2	-13.0	-35.2		
	3346.00	-8.4	V	3.0	43.6	1.0	-51.0	-13.0	-38.0		
	1673.00	-8.1	H	3.0	43.6	1.0	-50.7	-13.0	-37.7		
	2509.50	-9.4	H	3.0	43.4	1.0	-51.9	-13.0	-38.9		
	3346.00	-7.7	H	3.0	43.6	1.0	-50.3	-13.0	-37.3		
	High Ch, 847.5MHz										
	1695.00	-6.8	V	3.0	43.6	1.0	-49.4	-13.0	-36.4		
	2542.50	-9.4	V	3.0	43.4	1.0	-51.8	-13.0	-38.8		
	3390.00	-8.7	V	3.0	43.7	1.0	-51.4	-13.0	-38.4		
	1695.00	-6.3	H	3.0	43.6	1.0	-48.9	-13.0	-35.9		
	2542.50	-8.7	H	3.0	43.4	1.0	-51.2	-13.0	-38.2		
	3390.00	-8.0	H	3.0	43.7	1.0	-50.7	-13.0	-37.7		
	LTE Band 5 3MHz 16QAM	Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 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	-6.4	V	3.0	43.6	1.0	-49.0	-13.0	-36.0	
		2476.50	-7.2	V	3.0	43.4	1.0	-49.6	-13.0	-36.6	
3302.00		-7.8	V	3.0	43.6	1.0	-50.4	-13.0	-37.4		
Mid Ch, 836.5MHz											
1673.00		-8.8	V	3.0	43.6	1.0	-51.4	-13.0	-38.4		
2509.50		-5.3	V	3.0	43.4	1.0	-47.8	-13.0	-34.8		
3346.00		-8.4	V	3.0	43.6	1.0	-51.0	-13.0	-38.0		
1673.00		-8.4	H	3.0	43.6	1.0	-51.0	-13.0	-38.0		
2509.50		-9.4	H	3.0	43.4	1.0	-51.8	-13.0	-38.8		
3346.00		-7.8	H	3.0	43.6	1.0	-50.4	-13.0	-37.4		
High Ch, 847.5MHz											
1695.00		-5.5	V	3.0	43.6	1.0	-48.1	-13.0	-35.1		
2542.50		-9.4	V	3.0	43.4	1.0	-51.8	-13.0	-38.8		
3390.00		-8.4	V	3.0	43.7	1.0	-51.1	-13.0	-38.1		
1695.00		-5.4	H	3.0	43.6	1.0	-47.9	-13.0	-34.9		
2542.50		-9.2	H	3.0	43.4	1.0	-51.7	-13.0	-38.7		
3390.00		-8.3	H	3.0	43.7	1.0	-51.0	-13.0	-38.0		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 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
LTE									
Band 5									
1.4MHz									
QPSK									
Low Ch, 824.7MHz									
1649.40	-7.2	V	3.0	43.6	1.0	-49.8	-13.0	-36.8	
2474.10	-7.7	V	3.0	43.4	1.0	-50.2	-13.0	-37.2	
3298.80	-7.9	V	3.0	43.6	1.0	-50.5	-13.0	-37.5	
1649.40	-6.8	H	3.0	43.6	1.0	-49.3	-13.0	-36.3	
2474.10	-5.7	H	3.0	43.4	1.0	-48.1	-13.0	-35.1	
3298.80	-7.7	H	3.0	43.6	1.0	-50.3	-13.0	-37.3	
Mid Ch, 836.5MHz									
1673.00	-9.1	V	3.0	43.6	1.0	-51.6	-13.0	-38.6	
2509.50	-9.0	V	3.0	43.4	1.0	-51.4	-13.0	-38.4	
3346.00	-8.5	V	3.0	43.6	1.0	-51.2	-13.0	-38.2	
1673.00	-8.3	H	3.0	43.6	1.0	-50.8	-13.0	-37.8	
2509.50	-7.5	H	3.0	43.4	1.0	-50.0	-13.0	-37.0	
3346.00	-7.7	H	3.0	43.6	1.0	-50.3	-13.0	-37.3	
High Ch, 848.3MHz									
1696.60	-4.1	V	3.0	43.6	1.0	-46.6	-13.0	-33.6	
2544.90	-8.4	V	3.0	43.4	1.0	-50.8	-13.0	-37.8	
3393.20	-8.6	V	3.0	43.7	1.0	-51.2	-13.0	-38.2	
1696.60	-4.9	H	3.0	43.6	1.0	-47.5	-13.0	-34.5	
2544.90	-9.4	H	3.0	43.4	1.0	-51.8	-13.0	-38.8	
3393.20	-7.7	H	3.0	43.7	1.0	-50.4	-13.0	-37.4	
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788372835 Date: 2018-02-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone , X-Position Location: Chamber 1 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
LTE									
Band 5									
1.4MHz									
16QAM									
Low Ch, 824.7MHz									
1649.40	-7.2	V	3.0	43.6	1.0	-49.8	-13.0	-36.8	
2474.10	-6.8	V	3.0	43.4	1.0	-49.2	-13.0	-36.2	
3298.80	-7.8	V	3.0	43.6	1.0	-50.4	-13.0	-37.4	
1649.40	-6.4	H	3.0	43.6	1.0	-49.0	-13.0	-36.0	
2474.10	-5.9	H	3.0	43.4	1.0	-48.3	-13.0	-35.3	
3298.80	-7.3	H	3.0	43.6	1.0	-50.0	-13.0	-37.0	
Mid Ch, 836.5MHz									
1673.00	-9.3	V	3.0	43.6	1.0	-51.9	-13.0	-38.9	
2509.50	-8.4	V	3.0	43.4	1.0	-50.9	-13.0	-37.9	
3346.00	-8.4	V	3.0	43.6	1.0	-51.0	-13.0	-38.0	
1673.00	-8.5	H	3.0	43.6	1.0	-51.1	-13.0	-38.1	
2509.50	-6.9	H	3.0	43.4	1.0	-49.3	-13.0	-36.3	
3346.00	-7.8	H	3.0	43.6	1.0	-50.5	-13.0	-37.5	
High Ch, 848.3MHz									
1696.60	-3.7	V	3.0	43.6	1.0	-46.2	-13.0	-33.2	
2544.90	-8.9	V	3.0	43.4	1.0	-51.3	-13.0	-38.3	
3393.20	-8.1	V	3.0	43.7	1.0	-50.7	-13.0	-37.7	
1696.60	-4.8	H	3.0	43.6	1.0	-47.3	-13.0	-34.3	
2544.90	-8.7	H	3.0	43.4	1.0	-51.1	-13.0	-38.1	
3393.20	-8.2	H	3.0	43.7	1.0	-50.8	-13.0	-37.8	

LTE Band 41

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung Project #: 4788371689 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth										
LTE Band 41 20MHz QPSK		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 2506MHz											
		5012.00	-10.1	V	3.0	39.8	1.0	-48.9	-25.0	-23.9		
		7518.00	-8.3	V	3.0	39.4	1.0	-46.7	-25.0	-21.7		
		10024.00	-3.5	V	3.0	38.6	1.0	-41.0	-25.0	-16.0		
		5012.00	-9.7	H	3.0	39.8	1.0	-48.5	-25.0	-23.5		
		7518.00	-7.7	H	3.0	39.4	1.0	-46.1	-25.0	-21.1		
		10024.00	-7.7	H	3.0	38.6	1.0	-45.3	-25.0	-20.3		
	Mid Ch, 2593MHz											
		5186.00	-12.2	V	3.0	39.8	1.0	-51.0	-25.0	-26.0		
		7779.00	-8.7	V	3.0	39.3	1.0	-47.0	-25.0	-22.0		
		10372.00	-7.9	V	3.0	38.6	1.0	-45.5	-25.0	-20.5		
		5186.00	-12.5	H	3.0	39.8	1.0	-51.4	-25.0	-26.4		
		7779.00	-9.5	H	3.0	39.3	1.0	-47.8	-25.0	-22.8		
		10372.00	-10.3	H	3.0	38.6	1.0	-47.8	-25.0	-22.8		
	High Ch, 2680MHz											
		5360.00	-11.0	V	3.0	39.9	1.0	-49.9	-25.0	-24.9		
		8040.00	3.8	V	3.0	39.2	1.0	-34.4	-25.0	-9.4		
		10720.00	-5.8	V	3.0	38.5	1.0	-43.3	-25.0	-18.3		
		5360.00	-9.8	H	3.0	39.9	1.0	-48.7	-25.0	-23.7		
		8040.00	0.3	H	3.0	39.2	1.0	-37.9	-25.0	-12.9		
		10720.00	-7.1	H	3.0	38.5	1.0	-44.7	-25.0	-19.7		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
			Company: Samsung Project #: 4788371689 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth									
LTE Band 41 20MHz 16QAM		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 2506MHz											
		5012.00	-10.0	V	3.0	39.8	1.0	-48.8	-25.0	-23.8		
		7518.00	-8.8	V	3.0	39.4	1.0	-47.2	-25.0	-22.2		
		10024.00	-3.5	V	3.0	38.6	1.0	-41.1	-25.0	-16.1		
		5012.00	-10.0	H	3.0	39.8	1.0	-48.7	-25.0	-23.7		
		7518.00	-7.5	H	3.0	39.4	1.0	-45.9	-25.0	-20.9		
		10024.00	-7.2	H	3.0	38.6	1.0	-44.8	-25.0	-19.8		
	Mid Ch, 2593MHz											
		5186.00	-10.5	V	3.0	39.8	1.0	-49.3	-25.0	-24.3		
		7779.00	-9.0	V	3.0	39.3	1.0	-47.2	-25.0	-22.2		
		10372.00	-7.2	V	3.0	38.6	1.0	-44.8	-25.0	-19.8		
		5186.00	-12.7	H	3.0	39.8	1.0	-51.5	-25.0	-26.5		
		7779.00	-10.6	H	3.0	39.3	1.0	-48.9	-25.0	-23.9		
		10372.00	-10.5	H	3.0	38.6	1.0	-48.0	-25.0	-23.0		
	High Ch, 2680MHz											
		5360.00	-9.6	V	3.0	39.9	1.0	-48.5	-25.0	-23.5		
		8040.00	3.7	V	3.0	39.2	1.0	-34.5	-25.0	-9.5		
		10720.00	-5.5	V	3.0	38.5	1.0	-43.0	-25.0	-18.0		
		5360.00	-10.3	H	3.0	39.9	1.0	-49.2	-25.0	-24.2		
		8040.00	-0.3	H	3.0	39.2	1.0	-38.4	-25.0	-13.4		
		10720.00	-7.8	H	3.0	38.5	1.0	-45.4	-25.0	-20.4		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
LTE Band 41 15MHz QPSK	Company:		Samsung								
	Project #:		4788371689								
	Date:		2018-03-27								
	Test Engineer:		45585								
	Configuration:		EUT / Adapter / Earphone, X-Position								
	Location:		Chamber 2								
	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	-10.9	V	3.0	39.8	1.0	-49.7	-25.0	-24.7		
	7510.50	-9.0	V	3.0	39.4	1.0	-47.4	-25.0	-22.4		
	10014.00	-5.5	V	3.0	38.6	1.0	-43.1	-25.0	-18.1		
	Mid Ch, 2593MHz										
	5007.00	-13.6	H	3.0	39.8	1.0	-52.4	-25.0	-27.4		
	7510.50	-8.8	H	3.0	39.4	1.0	-47.2	-25.0	-22.2		
	10014.00	-3.0	H	3.0	38.6	1.0	-40.6	-25.0	-15.6		
	High Ch, 2682.5MHz										
	5186.00	-9.8	V	3.0	39.8	1.0	-48.7	-25.0	-23.7		
	7779.00	-4.4	V	3.0	39.3	1.0	-42.7	-25.0	-17.7		
	10372.00	-2.3	V	3.0	38.6	1.0	-39.9	-25.0	-14.9		
5186.00	-10.8	H	3.0	39.8	1.0	-49.6	-25.0	-24.6			
7779.00	-8.3	H	3.0	39.3	1.0	-46.6	-25.0	-21.6			
10372.00	-8.5	H	3.0	38.6	1.0	-46.0	-25.0	-21.0			
High Ch, 2682.5MHz											
5365.00	-10.2	V	3.0	39.9	1.0	-49.1	-25.0	-24.1			
8047.50	6.9	V	3.0	39.2	1.0	-31.3	-25.0	-6.3			
10730.00	-5.7	V	3.0	38.5	1.0	-43.2	-25.0	-18.2			
5365.00	-11.0	H	3.0	39.9	1.0	-49.9	-25.0	-24.9			
8047.50	6.3	H	3.0	39.2	1.0	-31.9	-25.0	-6.9			
10730.00	-7.5	H	3.0	38.5	1.0	-45.1	-25.0	-20.1			
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
LTE Band 41 15MHz 16QAM	Company:		Samsung								
	Project #:		4788371689								
	Date:		2018-03-27								
	Test Engineer:		45585								
	Configuration:		EUT / Adapter / Earphone, X-Position								
	Location:		Chamber 2								
	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	-11.4	V	3.0	39.8	1.0	-50.2	-25.0	-25.2		
	7510.50	-9.1	V	3.0	39.4	1.0	-47.4	-25.0	-22.4		
	10014.00	-5.1	V	3.0	38.6	1.0	-42.7	-25.0	-17.7		
	Mid Ch, 2593MHz										
	5007.00	-13.3	H	3.0	39.8	1.0	-52.1	-25.0	-27.1		
	7510.50	-7.5	H	3.0	39.4	1.0	-45.9	-25.0	-20.9		
	10014.00	-3.5	H	3.0	38.6	1.0	-41.1	-25.0	-16.1		
	High Ch, 2682.5MHz										
	5186.00	-9.3	V	3.0	39.8	1.0	-48.1	-25.0	-23.1		
	7779.00	-4.1	V	3.0	39.3	1.0	-42.4	-25.0	-17.4		
	10372.00	-2.6	V	3.0	38.6	1.0	-40.2	-25.0	-15.2		
5186.00	-11.0	H	3.0	39.8	1.0	-49.8	-25.0	-24.8			
7779.00	-8.9	H	3.0	39.3	1.0	-47.2	-25.0	-22.2			
10372.00	-8.1	H	3.0	38.6	1.0	-45.6	-25.0	-20.6			
High Ch, 2682.5MHz											
5365.00	-10.7	V	3.0	39.9	1.0	-49.6	-25.0	-24.6			
8047.50	7.0	V	3.0	39.2	1.0	-31.1	-25.0	-6.1			
10730.00	-5.9	V	3.0	38.5	1.0	-43.4	-25.0	-18.4			
5365.00	-11.0	H	3.0	39.9	1.0	-49.9	-25.0	-24.9			
8047.50	6.4	H	3.0	39.2	1.0	-31.7	-25.0	-6.7			
10730.00	-7.9	H	3.0	38.5	1.0	-45.4	-25.0	-20.4			

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
LTE Band 41 10MHz QPSK	Company: Samsung Project #: 4788371689 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 2501MHz										
	5002.00	-7.7	V	3.0	39.8	1.0	-46.5	-25.0	-21.5		
	7503.00	-7.5	V	3.0	39.4	1.0	-45.9	-25.0	-20.9		
	10004.00	-1.5	V	3.0	38.6	1.0	-39.1	-25.0	-14.1		
	5002.00	-11.6	H	3.0	39.8	1.0	-50.4	-25.0	-25.4		
	7503.00	-6.4	H	3.0	39.4	1.0	-44.8	-25.0	-19.8		
	10004.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7		
	Mid Ch, 2593MHz										
	5186.00	-8.7	V	3.0	39.8	1.0	-47.5	-25.0	-22.5		
	7779.00	-5.3	V	3.0	39.3	1.0	-43.6	-25.0	-18.6		
	10372.00	-5.3	V	3.0	38.6	1.0	-42.9	-25.0	-17.9		
	5186.00	-9.3	H	3.0	39.8	1.0	-48.1	-25.0	-23.1		
	7779.00	-9.5	H	3.0	39.3	1.0	-47.8	-25.0	-22.8		
	10372.00	-7.0	H	3.0	38.6	1.0	-44.5	-25.0	-19.5		
	High Ch, 2685MHz										
	5370.00	-10.5	V	3.0	39.9	1.0	-49.4	-25.0	-24.4		
	8055.00	8.3	V	3.0	39.2	1.0	-29.8	-25.0	-4.8		
	10740.00	-5.1	V	3.0	38.5	1.0	-42.7	-25.0	-17.7		
	5370.00	-11.1	H	3.0	39.9	1.0	-49.9	-25.0	-24.9		
	8055.00	6.9	H	3.0	39.2	1.0	-31.2	-25.0	-6.2		
	10740.00	-7.8	H	3.0	38.5	1.0	-45.3	-25.0	-20.3		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
	LTE Band 41 10MHz 16QAM	Company: Samsung Project #: 4788371689 Date: 2018-03-27 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth									
f MHz		SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2501MHz											
5002.00		-8.2	V	3.0	39.8	1.0	-47.0	-25.0	-22.0		
7503.00		-8.1	V	3.0	39.4	1.0	-46.5	-25.0	-21.5		
10004.00		-1.6	V	3.0	38.6	1.0	-39.2	-25.0	-14.2		
5002.00		-11.3	H	3.0	39.8	1.0	-50.1	-25.0	-25.1		
7503.00		-6.4	H	3.0	39.4	1.0	-44.8	-25.0	-19.8		
10004.00		-6.8	H	3.0	38.6	1.0	-44.3	-25.0	-19.3		
Mid Ch, 2593MHz											
5186.00		-8.8	V	3.0	39.8	1.0	-47.6	-25.0	-22.6		
7779.00		-5.4	V	3.0	39.3	1.0	-43.6	-25.0	-18.6		
10372.00		-5.3	V	3.0	38.6	1.0	-42.8	-25.0	-17.8		
5186.00		-9.8	H	3.0	39.8	1.0	-48.7	-25.0	-23.7		
7779.00		-9.1	H	3.0	39.3	1.0	-47.3	-25.0	-22.3		
10372.00		-7.6	H	3.0	38.6	1.0	-45.2	-25.0	-20.2		
High Ch, 2685MHz											
5370.00		-10.6	V	3.0	39.9	1.0	-49.5	-25.0	-24.5		
8055.00		8.1	V	3.0	39.2	1.0	-30.0	-25.0	-5.0		
10740.00		-4.8	V	3.0	38.5	1.0	-42.3	-25.0	-17.3		
5370.00		-11.9	H	3.0	39.9	1.0	-50.7	-25.0	-25.7		
8055.00		6.6	H	3.0	39.2	1.0	-31.6	-25.0	-6.6		
10740.00		-7.3	H	3.0	38.5	1.0	-44.8	-25.0	-19.8		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
LTE Band 41 5MHz QPSK	Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 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	-10.7	V	3.0	39.8	1.0	-49.4	-25.0	-24.4	
	7495.50	-8.5	V	3.0	39.4	1.0	-46.9	-25.0	-21.9	
	9994.00	-2.4	V	3.0	38.6	1.0	-40.0	-25.0	-15.0	
	4997.00	-11.8	H	3.0	39.8	1.0	-50.6	-25.0	-25.6	
	7495.50	-8.1	H	3.0	39.4	1.0	-46.5	-25.0	-21.5	
	9994.00	-6.4	H	3.0	38.6	1.0	-43.9	-25.0	-18.9	
	Mid Ch, 2593MHz									
	5186.00	-10.1	V	3.0	39.8	1.0	-48.9	-25.0	-23.9	
	7779.00	-7.7	V	3.0	39.3	1.0	-46.0	-25.0	-21.0	
	10372.00	-6.6	V	3.0	38.6	1.0	-44.2	-25.0	-19.2	
	5186.00	-10.7	H	3.0	39.8	1.0	-49.5	-25.0	-24.5	
	7779.00	-10.5	H	3.0	39.3	1.0	-48.8	-25.0	-23.8	
	10372.00	-5.7	H	3.0	38.6	1.0	-43.3	-25.0	-18.3	
	High Ch, 2687.5MHz									
	5375.00	-8.8	V	3.0	39.9	1.0	-47.7	-25.0	-22.7	
	8062.50	8.1	V	3.0	39.1	1.0	-30.0	-25.0	-5.0	
	10750.00	-1.9	V	3.0	38.5	1.0	-39.5	-25.0	-14.5	
5375.00	-10.4	H	3.0	39.9	1.0	-49.3	-25.0	-24.3		
8062.50	6.5	H	3.0	39.1	1.0	-31.7	-25.0	-6.7		
10750.00	-5.4	H	3.0	38.5	1.0	-42.9	-25.0	-17.9		
LTE Band 41 5MHz 16QAM	Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, X-Position Location: Chamber 2 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	-11.0	V	3.0	39.8	1.0	-49.8	-25.0	-24.8	
	7495.50	-8.4	V	3.0	39.4	1.0	-46.8	-25.0	-21.8	
	9994.00	-2.6	V	3.0	38.6	1.0	-40.1	-25.0	-15.1	
	4997.00	-11.4	H	3.0	39.8	1.0	-50.2	-25.0	-25.2	
	7495.50	-8.8	H	3.0	39.4	1.0	-47.2	-25.0	-22.2	
	9994.00	-7.5	H	3.0	38.6	1.0	-45.1	-25.0	-20.1	
	Mid Ch, 2593MHz									
	5186.00	-9.8	V	3.0	39.8	1.0	-48.6	-25.0	-23.6	
	7779.00	-7.4	V	3.0	39.3	1.0	-45.7	-25.0	-20.7	
	10372.00	-6.7	V	3.0	38.6	1.0	-44.2	-25.0	-19.2	
	5186.00	-11.7	H	3.0	39.8	1.0	-50.5	-25.0	-25.5	
	7779.00	-9.2	H	3.0	39.3	1.0	-47.5	-25.0	-22.5	
	10372.00	-7.0	H	3.0	38.6	1.0	-44.6	-25.0	-19.6	
	High Ch, 2687.5MHz									
	5375.00	-8.1	V	3.0	39.9	1.0	-47.0	-25.0	-22.0	
	8062.50	7.3	V	3.0	39.1	1.0	-30.8	-25.0	-5.8	
	10750.00	-1.7	V	3.0	38.5	1.0	-39.2	-25.0	-14.2	
5375.00	-10.0	H	3.0	39.9	1.0	-48.9	-25.0	-23.9		
8062.50	6.4	H	3.0	39.1	1.0	-31.8	-25.0	-6.8		
10750.00	-5.4	H	3.0	38.5	1.0	-42.9	-25.0	-17.9		

LTE Band 66

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 Harmonics, 20MHz Bandwidth										
LTE Band 66 20MHz QPSK		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1720MHz											
		3440.00	-9.0	V	3.0	41.0	1.0	-49.0	-13.0	-36.0		
		5160.00	-13.0	V	3.0	40.1	1.0	-52.2	-13.0	-39.2		
		6880.00	-8.9	V	3.0	40.0	1.0	-48.0	-13.0	-35.0		
		3440.00	-5.8	H	3.0	41.0	1.0	-45.8	-13.0	-32.8		
		5160.00	-14.0	H	3.0	40.1	1.0	-53.1	-13.0	-40.1		
		6880.00	-9.0	H	3.0	40.0	1.0	-48.0	-13.0	-35.0		
	Mid Ch, 1745MHz											
		3490.00	-10.6	V	3.0	41.0	1.0	-50.6	-13.0	-37.6		
		5235.00	-12.7	V	3.0	40.1	1.0	-51.8	-13.0	-38.8		
		6980.00	-9.3	V	3.0	40.0	1.0	-48.3	-13.0	-35.3		
		3490.00	-4.4	H	3.0	41.0	1.0	-44.4	-13.0	-31.4		
		5235.00	-13.7	H	3.0	40.1	1.0	-52.8	-13.0	-39.8		
		6980.00	-10.2	H	3.0	40.0	1.0	-49.3	-13.0	-36.3		
	High Ch, 1770MHz											
		3540.00	-12.6	V	3.0	41.0	1.0	-52.6	-13.0	-39.6		
		5310.00	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
		7080.00	-8.8	V	3.0	40.0	1.0	-47.9	-13.0	-34.9		
		3540.00	-6.6	H	3.0	41.0	1.0	-46.5	-13.0	-33.5		
		5310.00	-13.7	H	3.0	40.1	1.0	-52.8	-13.0	-39.8		
		7080.00	-10.9	H	3.0	40.0	1.0	-49.9	-13.0	-36.9		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
			Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 Harmonics, 20MHz Bandwidth									
	LTE Band 66 20MHz 16QAM		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720MHz												
		3440.00	-9.3	V	3.0	41.0	1.0	-49.3	-13.0	-36.3		
		5160.00	-12.6	V	3.0	40.1	1.0	-51.8	-13.0	-38.8		
		6880.00	-8.1	V	3.0	40.0	1.0	-47.2	-13.0	-34.2		
		3440.00	-2.9	H	3.0	41.0	1.0	-42.9	-13.0	-29.9		
		5160.00	-14.5	H	3.0	40.1	1.0	-53.6	-13.0	-40.6		
		6880.00	-10.9	H	3.0	40.0	1.0	-49.9	-13.0	-36.9		
Mid Ch, 1745MHz												
		3490.00	-11.1	V	3.0	41.0	1.0	-51.1	-13.0	-38.1		
		5235.00	-12.0	V	3.0	40.1	1.0	-51.1	-13.0	-38.1		
		6980.00	-9.2	V	3.0	40.0	1.0	-48.2	-13.0	-35.2		
		3490.00	-5.1	H	3.0	41.0	1.0	-45.1	-13.0	-32.1		
		5235.00	-14.2	H	3.0	40.1	1.0	-53.3	-13.0	-40.3		
		6980.00	-10.4	H	3.0	40.0	1.0	-49.4	-13.0	-36.4		
High Ch, 1770MHz												
		3540.00	-11.2	V	3.0	41.0	1.0	-51.2	-13.0	-38.2		
		5310.00	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
		7080.00	-9.3	V	3.0	40.0	1.0	-48.4	-13.0	-35.4		
		3540.00	-6.2	H	3.0	41.0	1.0	-46.1	-13.0	-33.1		
		5310.00	-13.7	H	3.0	40.1	1.0	-52.8	-13.0	-39.8		
		7080.00	-13.6	H	3.0	40.0	1.0	-52.6	-13.0	-39.6		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 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, 1717.5MHz										
3435.00	-8.8	V	3.0	41.0	1.0	-48.8	-13.0	-35.8		
5152.50	-11.8	V	3.0	40.1	1.0	-51.0	-13.0	-38.0		
6870.00	-7.0	V	3.0	40.0	1.0	-46.0	-13.0	-33.0		
3435.00	-6.0	H	3.0	41.0	1.0	-46.0	-13.0	-33.0		
5152.50	-14.4	H	3.0	40.1	1.0	-53.5	-13.0	-40.5		
6870.00	-10.9	H	3.0	40.0	1.0	-49.9	-13.0	-36.9		
Mid Ch, 1745MHz										
3490.00	-9.8	V	3.0	41.0	1.0	-49.8	-13.0	-36.8		
5235.00	-12.0	V	3.0	40.1	1.0	-51.1	-13.0	-38.1		
6980.00	-9.1	V	3.0	40.0	1.0	-48.2	-13.0	-35.2		
3490.00	-4.7	H	3.0	41.0	1.0	-44.7	-13.0	-31.7		
5235.00	-13.8	H	3.0	40.1	1.0	-52.9	-13.0	-39.9		
6980.00	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2		
High Ch, 1772.5MHz										
3545.00	-11.3	V	3.0	41.0	1.0	-51.3	-13.0	-38.3		
5317.50	-12.0	V	3.0	40.1	1.0	-51.1	-13.0	-38.1		
7090.00	-10.0	V	3.0	40.0	1.0	-49.0	-13.0	-36.0		
3545.00	-6.4	H	3.0	41.0	1.0	-46.4	-13.0	-33.4		
5317.50	-13.8	H	3.0	40.1	1.0	-52.9	-13.0	-39.9		
7090.00	-11.1	H	3.0	40.0	1.0	-50.2	-13.0	-37.2		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 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, 1717.5MHz										
3435.00	-8.6	V	3.0	41.0	1.0	-48.7	-13.0	-35.7		
5152.50	-11.9	V	3.0	40.1	1.0	-51.0	-13.0	-38.0		
6870.00	-6.9	V	3.0	40.0	1.0	-46.0	-13.0	-33.0		
3435.00	-5.7	H	3.0	41.0	1.0	-45.8	-13.0	-32.8		
5152.50	-14.6	H	3.0	40.1	1.0	-53.7	-13.0	-40.7		
6870.00	-10.7	H	3.0	40.0	1.0	-49.7	-13.0	-36.7		
Mid Ch, 1745MHz										
3490.00	-10.1	V	3.0	41.0	1.0	-50.1	-13.0	-37.1		
5235.00	-11.2	V	3.0	40.1	1.0	-50.3	-13.0	-37.3		
6980.00	-8.7	V	3.0	40.0	1.0	-47.7	-13.0	-34.7		
3490.00	-5.3	H	3.0	41.0	1.0	-45.3	-13.0	-32.3		
5235.00	-14.1	H	3.0	40.1	1.0	-53.2	-13.0	-40.2		
6980.00	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2		
High Ch, 1772.5MHz										
3545.00	-10.7	V	3.0	41.0	1.0	-50.6	-13.0	-37.6		
5317.50	-11.8	V	3.0	40.1	1.0	-50.9	-13.0	-37.9		
7090.00	-8.9	V	3.0	40.0	1.0	-47.9	-13.0	-34.9		
3545.00	-6.6	H	3.0	41.0	1.0	-46.6	-13.0	-33.6		
5317.50	-13.3	H	3.0	40.1	1.0	-52.4	-13.0	-39.4		
7090.00	-10.8	H	3.0	40.0	1.0	-49.8	-13.0	-36.8		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 Harmonics, 10MHz Bandwidth								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 1715MHz										
3430.00	-8.7	V	3.0	41.0	1.0	-48.8	-13.0	-35.8		
5145.00	-11.6	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
6860.00	-7.2	V	3.0	40.0	1.0	-46.2	-13.0	-33.2		
3430.00	-6.9	H	3.0	41.0	1.0	-47.0	-13.0	-34.0		
5145.00	-14.2	H	3.0	40.1	1.0	-53.3	-13.0	-40.3		
6860.00	-11.0	H	3.0	40.0	1.0	-50.1	-13.0	-37.1		
Mid Ch, 1745MHz										
3490.00	-10.3	V	3.0	41.0	1.0	-50.3	-13.0	-37.3		
5235.00	-10.8	V	3.0	40.1	1.0	-49.9	-13.0	-36.9		
6980.00	-9.0	V	3.0	40.0	1.0	-48.0	-13.0	-35.0		
3490.00	-5.0	H	3.0	41.0	1.0	-45.0	-13.0	-32.0		
5235.00	-13.8	H	3.0	40.1	1.0	-52.9	-13.0	-39.9		
6980.00	-10.0	H	3.0	40.0	1.0	-49.0	-13.0	-36.0		
High Ch, 1775MHz										
3550.00	-11.3	V	3.0	41.0	1.0	-51.2	-13.0	-38.2		
5325.00	-11.2	V	3.0	40.1	1.0	-50.3	-13.0	-37.3		
7100.00	-9.2	V	3.0	40.0	1.0	-48.2	-13.0	-35.2		
3550.00	-5.5	H	3.0	41.0	1.0	-45.5	-13.0	-32.5		
5325.00	-13.6	H	3.0	40.1	1.0	-52.7	-13.0	-39.7		
7100.00	-11.3	H	3.0	40.0	1.0	-50.4	-13.0	-37.4		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 Harmonics, 10MHz Bandwidth								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 1715MHz										
3430.00	-8.5	V	3.0	41.0	1.0	-48.6	-13.0	-35.6		
5145.00	-12.4	V	3.0	40.1	1.0	-51.5	-13.0	-38.5		
6860.00	-7.0	V	3.0	40.0	1.0	-46.0	-13.0	-33.0		
3430.00	-7.1	H	3.0	41.0	1.0	-47.2	-13.0	-34.2		
5145.00	-13.2	H	3.0	40.1	1.0	-52.3	-13.0	-39.3		
6860.00	-10.6	H	3.0	40.0	1.0	-49.6	-13.0	-36.6		
Mid Ch, 1745MHz										
3490.00	-10.4	V	3.0	41.0	1.0	-50.4	-13.0	-37.4		
5235.00	-11.9	V	3.0	40.1	1.0	-51.0	-13.0	-38.0		
6980.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5		
3490.00	-5.1	H	3.0	41.0	1.0	-45.1	-13.0	-32.1		
5235.00	-14.1	H	3.0	40.1	1.0	-53.2	-13.0	-40.2		
6980.00	-9.8	H	3.0	40.0	1.0	-48.8	-13.0	-35.8		
High Ch, 1775MHz										
3550.00	-11.3	V	3.0	41.0	1.0	-51.3	-13.0	-38.3		
5325.00	-11.7	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
7100.00	-8.8	V	3.0	40.0	1.0	-47.8	-13.0	-34.8		
3550.00	-5.4	H	3.0	41.0	1.0	-45.4	-13.0	-32.4		
5325.00	-14.3	H	3.0	40.1	1.0	-53.4	-13.0	-40.4		
7100.00	-10.9	H	3.0	40.0	1.0	-50.0	-13.0	-37.0		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
LTE Band 66 5MHz QPSK	Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 Harmonics, 5MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1712.5MHz										
	3425.00	-8.8	V	3.0	41.0	1.0	-48.9	-13.0	-35.9		
	5137.50	-11.7	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
	6850.00	-7.3	V	3.0	40.0	1.0	-46.3	-13.0	-33.3		
	3425.00	-4.2	H	3.0	41.0	1.0	-44.2	-13.0	-31.2		
	5137.50	-14.3	H	3.0	40.1	1.0	-53.4	-13.0	-40.4		
	6850.00	-10.8	H	3.0	40.0	1.0	-49.8	-13.0	-36.8		
	Mid Ch, 1745MHz										
	3490.00	-10.3	V	3.0	41.0	1.0	-50.3	-13.0	-37.3		
	5235.00	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
	6980.00	-9.1	V	3.0	40.0	1.0	-48.1	-13.0	-35.1		
	3490.00	-4.8	H	3.0	41.0	1.0	-44.8	-13.0	-31.8		
	5235.00	-13.7	H	3.0	40.1	1.0	-52.8	-13.0	-39.8		
	6980.00	-10.0	H	3.0	40.0	1.0	-49.0	-13.0	-36.0		
	High Ch, 1777.5MHz										
	3555.00	-11.3	V	3.0	41.0	1.0	-51.3	-13.0	-38.3		
	5332.50	-11.1	V	3.0	40.1	1.0	-50.2	-13.0	-37.2		
	7110.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5		
	3555.00	-5.4	H	3.0	41.0	1.0	-45.4	-13.0	-32.4		
	5332.50	-13.6	H	3.0	40.1	1.0	-52.7	-13.0	-39.7		
	7110.00	-10.7	H	3.0	40.0	1.0	-49.7	-13.0	-36.7		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
LTE Band 66 5MHz 16QAM	Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 Harmonics, 5MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1712.5MHz										
	3425.00	-8.6	V	3.0	41.0	1.0	-48.6	-13.0	-35.6		
	5137.50	-12.1	V	3.0	40.1	1.0	-51.2	-13.0	-38.2		
	6850.00	-7.2	V	3.0	40.0	1.0	-46.3	-13.0	-33.3		
	3425.00	-3.9	H	3.0	41.0	1.0	-43.9	-13.0	-30.9		
	5137.50	-14.7	H	3.0	40.1	1.0	-53.8	-13.0	-40.8		
	6850.00	-11.1	H	3.0	40.0	1.0	-50.1	-13.0	-37.1		
	Mid Ch, 1745MHz										
	3490.00	-10.1	V	3.0	41.0	1.0	-50.1	-13.0	-37.1		
	5235.00	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
	6980.00	-8.9	V	3.0	40.0	1.0	-48.0	-13.0	-35.0		
	3490.00	-4.7	H	3.0	41.0	1.0	-44.7	-13.0	-31.7		
	5235.00	-14.4	H	3.0	40.1	1.0	-53.5	-13.0	-40.5		
	6980.00	-10.3	H	3.0	40.0	1.0	-49.4	-13.0	-36.4		
	High Ch, 1777.5MHz										
	3555.00	-11.2	V	3.0	41.0	1.0	-51.1	-13.0	-38.1		
	5332.50	-11.7	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
	7110.00	-8.8	V	3.0	40.0	1.0	-47.8	-13.0	-34.8		
	3555.00	-5.3	H	3.0	41.0	1.0	-45.3	-13.0	-32.3		
	5332.50	-14.0	H	3.0	40.1	1.0	-53.1	-13.0	-40.1		
	7110.00	-11.1	H	3.0	40.0	1.0	-50.1	-13.0	-37.1		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 Harmonics, 3MHz Bandwidth									
LTE	Band 66	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 1711.5MHz 3423.00 -9.1 V 3.0 41.0 1.0 -49.2 -13.0 -36.2 5134.50 -12.1 V 3.0 40.1 1.0 -51.2 -13.0 -38.2 6846.00 -8.1 V 3.0 40.0 1.0 -47.1 -13.0 -34.1 3423.00 -4.1 H 3.0 41.0 1.0 -44.2 -13.0 -31.2 5134.50 -14.3 H 3.0 40.1 1.0 -53.4 -13.0 -40.4 6846.00 -10.6 H 3.0 40.0 1.0 -49.7 -13.0 -36.7 Mid Ch, 1745MHz 3490.00 -10.3 V 3.0 41.0 1.0 -50.3 -13.0 -37.3 5235.00 -11.0 V 3.0 40.1 1.0 -50.1 -13.0 -37.1 6980.00 -8.9 V 3.0 40.0 1.0 -47.9 -13.0 -34.9 3490.00 -4.9 H 3.0 41.0 1.0 -44.9 -13.0 -31.9 5235.00 -13.8 H 3.0 40.1 1.0 -52.9 -13.0 -39.9 6980.00 -10.7 H 3.0 40.0 1.0 -49.7 -13.0 -36.7 High Ch, 1778.5MHz 3557.00 -11.8 V 3.0 41.0 1.0 -51.8 -13.0 -38.8 5335.50 -11.2 V 3.0 40.1 1.0 -50.3 -13.0 -37.3 7114.00 -9.0 V 3.0 40.0 1.0 -48.1 -13.0 -35.1 3557.00 -5.5 H 3.0 41.0 1.0 -45.4 -13.0 -32.4 5335.50 -13.7 H 3.0 40.1 1.0 -52.8 -13.0 -39.8 7114.00 -11.4 H 3.0 40.0 1.0 -50.4 -13.0 -37.4									
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 Harmonics, 3MHz Bandwidth									
LTE	Band 66	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 1711.5MHz 3423.00 -9.1 V 3.0 41.0 1.0 -49.1 -13.0 -36.1 5134.50 -12.0 V 3.0 40.1 1.0 -51.2 -13.0 -38.2 6846.00 -7.8 V 3.0 40.0 1.0 -46.8 -13.0 -33.8 3423.00 -3.6 H 3.0 41.0 1.0 -43.6 -13.0 -30.6 5134.50 -14.1 H 3.0 40.1 1.0 -53.3 -13.0 -40.3 6846.00 -10.7 H 3.0 40.0 1.0 -49.7 -13.0 -36.7 Mid Ch, 1745MHz 3490.00 -12.1 V 3.0 41.0 1.0 -52.1 -13.0 -39.1 5235.00 -11.8 V 3.0 40.1 1.0 -50.9 -13.0 -37.9 6980.00 -9.2 V 3.0 40.0 1.0 -48.2 -13.0 -35.2 3490.00 -5.0 H 3.0 41.0 1.0 -45.0 -13.0 -32.0 5235.00 -14.3 H 3.0 40.1 1.0 -53.4 -13.0 -40.4 6980.00 -9.9 H 3.0 40.0 1.0 -49.0 -13.0 -36.0 High Ch, 1778.5MHz 3557.00 -11.4 V 3.0 41.0 1.0 -51.4 -13.0 -38.4 5335.50 -12.1 V 3.0 40.1 1.0 -51.2 -13.0 -38.2 7114.00 -9.2 V 3.0 40.0 1.0 -48.2 -13.0 -35.2 3557.00 -5.5 H 3.0 41.0 1.0 -45.5 -13.0 -32.5 5335.50 -13.7 H 3.0 40.1 1.0 -52.8 -13.0 -39.8 7114.00 -10.8 H 3.0 40.0 1.0 -49.9 -13.0 -36.9									

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_QPSK Band 66 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, 1710.7MHz										
3421.40	-9.4	V	3.0	41.0	1.0	-49.4	-13.0	-36.4		
5132.10	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
6842.80	-7.9	V	3.0	40.0	1.0	-47.0	-13.0	-34.0		
3421.40	-5.1	H	3.0	41.0	1.0	-45.2	-13.0	-32.2		
5132.10	-12.9	H	3.0	40.1	1.0	-52.0	-13.0	-39.0		
6842.80	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2		
Mid Ch, 1745MHz										
3490.00	-10.6	V	3.0	41.0	1.0	-50.6	-13.0	-37.6		
5235.00	-11.7	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
6980.00	-8.3	V	3.0	40.0	1.0	-47.3	-13.0	-34.3		
3490.00	-4.9	H	3.0	41.0	1.0	-44.9	-13.0	-31.9		
5235.00	-13.4	H	3.0	40.1	1.0	-52.5	-13.0	-39.5		
6980.00	-8.6	H	3.0	40.0	1.0	-47.6	-13.0	-34.6		
High Ch, 1779.3MHz										
3558.60	-11.8	V	3.0	41.0	1.0	-51.8	-13.0	-38.8		
5337.90	-10.8	V	3.0	40.1	1.0	-49.8	-13.0	-36.8		
7117.20	-7.8	V	3.0	40.0	1.0	-46.9	-13.0	-33.9		
3558.60	-5.5	H	3.0	41.0	1.0	-45.5	-13.0	-32.5		
5337.90	-14.0	H	3.0	40.1	1.0	-53.0	-13.0	-40.0		
7117.20	-11.8	H	3.0	40.0	1.0	-50.9	-13.0	-37.9		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, X-Position Location: Chamber 3 Mode: LTE_16QAM Band 66 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, 1710.7MHz										
3421.40	-9.3	V	3.0	41.0	1.0	-49.4	-13.0	-36.4		
5132.10	-11.6	V	3.0	40.1	1.0	-50.7	-13.0	-37.7		
6842.80	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1		
3421.40	-6.0	H	3.0	41.0	1.0	-46.1	-13.0	-33.1		
5132.10	-13.9	H	3.0	40.1	1.0	-53.0	-13.0	-40.0		
6842.80	-10.8	H	3.0	40.0	1.0	-49.8	-13.0	-36.8		
Mid Ch, 1745MHz										
3490.00	-10.4	V	3.0	41.0	1.0	-50.4	-13.0	-37.4		
5235.00	-11.7	V	3.0	40.1	1.0	-50.8	-13.0	-37.8		
6980.00	-8.7	V	3.0	40.0	1.0	-47.7	-13.0	-34.7		
3490.00	-5.3	H	3.0	41.0	1.0	-45.3	-13.0	-32.3		
5235.00	-13.2	H	3.0	40.1	1.0	-52.3	-13.0	-39.3		
6980.00	-9.3	H	3.0	40.0	1.0	-48.4	-13.0	-35.4		
High Ch, 1779.3MHz										
3558.60	-11.6	V	3.0	41.0	1.0	-51.5	-13.0	-38.5		
5337.90	-11.3	V	3.0	40.1	1.0	-50.4	-13.0	-37.4		
7117.20	-8.6	V	3.0	40.0	1.0	-47.6	-13.0	-34.6		
3558.60	-5.3	H	3.0	41.0	1.0	-45.3	-13.0	-32.3		
5337.90	-13.6	H	3.0	40.1	1.0	-52.7	-13.0	-39.7		
7117.20	-11.4	H	3.0	40.0	1.0	-50.4	-13.0	-37.4		

LTE Band 2

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth										
LTE Band 2 20MHz QPSK		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1860MHz											
		3720.00	-5.0	V	3.0	40.9	1.0	-44.9	-13.0	-31.9		
		5580.00	-13.9	V	3.0	40.0	1.0	-52.9	-13.0	-39.9		
		7440.00	-7.4	V	3.0	40.0	1.0	-46.4	-13.0	-33.4		
		3720.00	-9.1	H	3.0	40.9	1.0	-49.0	-13.0	-36.0		
		5580.00	-14.6	H	3.0	40.0	1.0	-53.6	-13.0	-40.6		
		7440.00	-8.3	H	3.0	40.0	1.0	-47.3	-13.0	-34.3		
	Mid Ch, 1880MHz											
		3760.00	-6.2	V	3.0	40.8	1.0	-46.0	-13.0	-33.0		
		5640.00	-13.6	V	3.0	40.0	1.0	-52.6	-13.0	-39.6		
		7520.00	-5.4	V	3.0	40.0	1.0	-44.4	-13.0	-31.4		
		3760.00	-8.3	H	3.0	40.8	1.0	-48.2	-13.0	-35.2		
		5640.00	-13.7	H	3.0	40.0	1.0	-52.7	-13.0	-39.7		
		7520.00	-5.9	H	3.0	40.0	1.0	-45.0	-13.0	-32.0		
	High Ch, 1900MHz											
		3800.00	-7.7	V	3.0	40.8	1.0	-47.5	-13.0	-34.5		
		5700.00	-13.3	V	3.0	40.0	1.0	-52.3	-13.0	-39.3		
		7600.00	-6.3	V	3.0	40.0	1.0	-45.3	-13.0	-32.3		
		3800.00	-9.8	H	3.0	40.8	1.0	-49.6	-13.0	-36.6		
		5700.00	-13.0	H	3.0	40.0	1.0	-52.0	-13.0	-39.0		
		7600.00	-6.1	H	3.0	40.0	1.0	-45.1	-13.0	-32.1		
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
			Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth									
	LTE Band 2 20MHz 16QAM		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860MHz												
		3720.00	-5.1	V	3.0	40.9	1.0	-44.9	-13.0	-31.9		
		5580.00	-14.0	V	3.0	40.0	1.0	-53.0	-13.0	-40.0		
		7440.00	-7.5	V	3.0	40.0	1.0	-46.5	-13.0	-33.5		
		3720.00	-8.7	H	3.0	40.9	1.0	-48.6	-13.0	-35.6		
		5580.00	-14.5	H	3.0	40.0	1.0	-53.6	-13.0	-40.6		
		7440.00	-8.3	H	3.0	40.0	1.0	-47.3	-13.0	-34.3		
Mid Ch, 1880MHz												
		3760.00	-6.0	V	3.0	40.8	1.0	-45.9	-13.0	-32.9		
		5640.00	-13.6	V	3.0	40.0	1.0	-52.7	-13.0	-39.7		
		7520.00	-5.6	V	3.0	40.0	1.0	-44.6	-13.0	-31.6		
		3760.00	-8.3	H	3.0	40.8	1.0	-48.2	-13.0	-35.2		
		5640.00	-14.1	H	3.0	40.0	1.0	-53.1	-13.0	-40.1		
		7520.00	-6.5	H	3.0	40.0	1.0	-45.6	-13.0	-32.6		
High Ch, 1900MHz												
		3800.00	-6.7	V	3.0	40.8	1.0	-46.5	-13.0	-33.5		
		5700.00	-13.1	V	3.0	40.0	1.0	-52.1	-13.0	-39.1		
		7600.00	-6.2	V	3.0	40.0	1.0	-45.2	-13.0	-32.2		
		3800.00	-9.4	H	3.0	40.8	1.0	-49.2	-13.0	-36.2		
		5700.00	-11.8	H	3.0	40.0	1.0	-50.8	-13.0	-37.8		
		7600.00	-6.3	H	3.0	40.0	1.0	-45.3	-13.0	-32.3		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5MHz									
3715.00	-5.4	V	3.0	40.9	1.0	-45.2	-13.0	-32.2	
5572.50	-12.9	V	3.0	40.0	1.0	-52.0	-13.0	-39.0	
7430.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
3715.00	-12.0	H	3.0	40.9	1.0	-51.9	-13.0	-38.9	
5572.50	-13.8	H	3.0	40.0	1.0	-52.8	-13.0	-39.8	
7430.00	-8.7	H	3.0	40.0	1.0	-47.8	-13.0	-34.8	
Mid Ch, 1880MHz									
3760.00	-7.7	V	3.0	40.8	1.0	-47.5	-13.0	-34.5	
5640.00	-13.8	V	3.0	40.0	1.0	-52.9	-13.0	-39.9	
7520.00	-6.0	V	3.0	40.0	1.0	-45.1	-13.0	-32.1	
3760.00	-11.4	H	3.0	40.8	1.0	-51.3	-13.0	-38.3	
5640.00	-13.7	H	3.0	40.0	1.0	-52.7	-13.0	-39.7	
7520.00	-5.8	H	3.0	40.0	1.0	-44.9	-13.0	-31.9	
High Ch, 1902.5MHz									
3805.00	-9.6	V	3.0	40.8	1.0	-49.4	-13.0	-36.4	
5707.50	-12.5	V	3.0	40.0	1.0	-51.5	-13.0	-38.5	
7610.00	-5.8	V	3.0	40.0	1.0	-44.8	-13.0	-31.8	
3805.00	-10.4	H	3.0	40.8	1.0	-50.2	-13.0	-37.2	
5707.50	-13.6	H	3.0	40.0	1.0	-52.6	-13.0	-39.6	
7610.00	-6.1	H	3.0	40.0	1.0	-45.1	-13.0	-32.1	
Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM 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, 1857.5MHz									
3715.00	-5.3	V	3.0	40.9	1.0	-45.2	-13.0	-32.2	
5572.50	-13.6	V	3.0	40.0	1.0	-52.6	-13.0	-39.6	
7430.00	-8.0	V	3.0	40.0	1.0	-47.1	-13.0	-34.1	
3715.00	-9.4	H	3.0	40.9	1.0	-49.2	-13.0	-36.2	
5572.50	-13.6	H	3.0	40.0	1.0	-52.7	-13.0	-39.7	
7430.00	-7.9	H	3.0	40.0	1.0	-47.0	-13.0	-34.0	
Mid Ch, 1880MHz									
3760.00	-7.3	V	3.0	40.8	1.0	-47.2	-13.0	-34.2	
5640.00	-13.5	V	3.0	40.0	1.0	-52.5	-13.0	-39.5	
7520.00	-6.3	V	3.0	40.0	1.0	-45.3	-13.0	-32.3	
3760.00	-11.2	H	3.0	40.8	1.0	-51.1	-13.0	-38.1	
5640.00	-14.2	H	3.0	40.0	1.0	-53.3	-13.0	-40.3	
7520.00	-5.5	H	3.0	40.0	1.0	-44.5	-13.0	-31.5	
High Ch, 1902.5MHz									
3805.00	-8.0	V	3.0	40.8	1.0	-47.7	-13.0	-34.7	
5707.50	-13.4	V	3.0	40.0	1.0	-52.4	-13.0	-39.4	
7610.00	-5.5	V	3.0	40.0	1.0	-44.6	-13.0	-31.6	
3805.00	-9.8	H	3.0	40.8	1.0	-49.6	-13.0	-36.6	
5707.50	-13.1	H	3.0	40.0	1.0	-52.1	-13.0	-39.1	
7610.00	-5.9	H	3.0	40.0	1.0	-45.0	-13.0	-32.0	

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 2 Harmonics, 10MHz Bandwidth										
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
LTE Band 2 10MHz QPSK	Low Ch, 1855MHz	3710.00	-7.7	V	3.0	40.9	1.0	-47.6	-13.0	-34.6		
		5565.00	-17.1	V	3.0	40.0	1.0	-56.1	-13.0	-43.1		
		7420.00	-8.3	V	3.0	40.0	1.0	-47.4	-13.0	-34.4		
		3710.00	-11.8	H	3.0	40.9	1.0	-51.6	-13.0	-38.6		
		5565.00	-13.8	H	3.0	40.0	1.0	-52.8	-13.0	-39.8		
		7420.00	-8.1	H	3.0	40.0	1.0	-47.1	-13.0	-34.1		
		Mid Ch, 1880MHz	3760.00	-7.5	V	3.0	40.8	1.0	-47.3	-13.0	-34.3	
			5640.00	-11.9	V	3.0	40.0	1.0	-50.9	-13.0	-37.9	
			7520.00	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1	
			3760.00	-10.1	H	3.0	40.8	1.0	-50.0	-13.0	-37.0	
			5640.00	-13.2	H	3.0	40.0	1.0	-52.2	-13.0	-39.2	
			7520.00	-5.3	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	
		High Ch, 1905MHz	3810.00	-9.4	V	3.0	40.8	1.0	-49.2	-13.0	-36.2	
			5715.00	-12.8	V	3.0	40.0	1.0	-51.8	-13.0	-38.8	
			7620.00	-6.2	V	3.0	40.0	1.0	-45.3	-13.0	-32.3	
			3810.00	-12.5	H	3.0	40.8	1.0	-52.3	-13.0	-39.3	
			5715.00	-12.7	H	3.0	40.0	1.0	-51.8	-13.0	-38.8	
			7620.00	-5.2	H	3.0	40.0	1.0	-44.2	-13.0	-31.2	
			UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
			Company: Samsung Project #: 4788371689 Date: 2018-03-25 Test Engineer: 45574 Configuration: EUT / AC Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 2 Harmonics, 10MHz Bandwidth									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
LTE Band 2 10MHz 16QAM	Low Ch, 1855MHz	3710.00	-11.0	V	3.0	40.9	1.0	-50.8	-13.0	-37.8		
		5565.00	-13.4	V	3.0	40.0	1.0	-52.4	-13.0	-39.4		
		7420.00	-8.6	V	3.0	40.0	1.0	-47.6	-13.0	-34.6		
		3710.00	-11.4	H	3.0	40.9	1.0	-51.3	-13.0	-38.3		
		5565.00	-13.9	H	3.0	40.0	1.0	-52.9	-13.0	-39.9		
		7420.00	-8.3	H	3.0	40.0	1.0	-47.3	-13.0	-34.3		
		Mid Ch, 1880MHz	3760.00	-7.2	V	3.0	40.8	1.0	-47.0	-13.0	-34.0	
			5640.00	-15.8	V	3.0	40.0	1.0	-54.8	-13.0	-41.8	
			7520.00	-6.0	V	3.0	40.0	1.0	-45.0	-13.0	-32.0	
			3760.00	-10.8	H	3.0	40.8	1.0	-50.6	-13.0	-37.6	
			5640.00	-13.3	H	3.0	40.0	1.0	-52.3	-13.0	-39.3	
			7520.00	-5.2	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	
		High Ch, 1905MHz	3810.00	-9.8	V	3.0	40.8	1.0	-49.6	-13.0	-36.6	
			5715.00	-13.3	V	3.0	40.0	1.0	-52.3	-13.0	-39.3	
			7620.00	-6.7	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
			3810.00	-12.6	H	3.0	40.8	1.0	-52.4	-13.0	-39.4	
			5715.00	-13.9	H	3.0	40.0	1.0	-52.9	-13.0	-39.9	
			7620.00	-4.3	H	3.0	40.0	1.0	-43.4	-13.0	-30.4	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788371689 Date: 2018-03-23 Test Engineer: 47989 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 2 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5MHz									
3705.00	-14.5	V	3.0	40.9	1.0	-54.4	-13.0	-41.4	
5557.50	-13.1	V	3.0	40.1	1.0	-52.1	-13.0	-39.1	
7410.00	-5.5	V	3.0	40.0	1.0	-44.6	-13.0	-31.6	
3705.00	-13.8	H	3.0	40.9	1.0	-53.7	-13.0	-40.7	
5557.50	-13.5	H	3.0	40.1	1.0	-52.6	-13.0	-39.6	
7410.00	-8.1	H	3.0	40.0	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1880MHz									
3760.00	-14.1	V	3.0	40.8	1.0	-53.9	-13.0	-40.9	
5640.00	-13.0	V	3.0	40.0	1.0	-52.0	-13.0	-39.0	
7520.00	-6.4	V	3.0	40.0	1.0	-45.4	-13.0	-32.4	
3760.00	-12.9	H	3.0	40.8	1.0	-52.8	-13.0	-39.8	
5640.00	-13.1	H	3.0	40.0	1.0	-52.1	-13.0	-39.1	
7520.00	-6.9	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
High Ch, 1907.5MHz									
3815.00	-13.9	V	3.0	40.8	1.0	-53.7	-13.0	-40.7	
5722.50	-12.3	V	3.0	40.0	1.0	-51.3	-13.0	-38.3	
7630.00	-6.1	V	3.0	40.0	1.0	-45.2	-13.0	-32.2	
3815.00	-12.9	H	3.0	40.8	1.0	-52.7	-13.0	-39.7	
5722.50	-13.0	H	3.0	40.0	1.0	-52.0	-13.0	-39.0	
7630.00	-5.7	H	3.0	40.0	1.0	-44.8	-13.0	-31.8	
Company: Samsung Project #: 4788371689 Date: 2018-03-23 Test Engineer: 47989 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 2 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5MHz									
3705.00	-14.4	V	3.0	40.9	1.0	-54.3	-13.0	-41.3	
5557.50	-12.2	V	3.0	40.1	1.0	-51.3	-13.0	-38.3	
7410.00	-8.2	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
3705.00	-14.4	H	3.0	40.9	1.0	-54.3	-13.0	-41.3	
5557.50	-13.3	H	3.0	40.1	1.0	-52.4	-13.0	-39.4	
7410.00	-7.4	H	3.0	40.0	1.0	-46.4	-13.0	-33.4	
Mid Ch, 1880MHz									
3760.00	-12.7	V	3.0	40.8	1.0	-52.6	-13.0	-39.6	
5640.00	-11.9	V	3.0	40.0	1.0	-51.0	-13.0	-38.0	
7520.00	-7.2	V	3.0	40.0	1.0	-46.3	-13.0	-33.3	
3760.00	-14.1	H	3.0	40.8	1.0	-53.9	-13.0	-40.9	
5640.00	-12.7	H	3.0	40.0	1.0	-51.8	-13.0	-38.8	
7520.00	-6.6	H	3.0	40.0	1.0	-45.7	-13.0	-32.7	
High Ch, 1907.5MHz									
3815.00	-14.1	V	3.0	40.8	1.0	-53.9	-13.0	-40.9	
5722.50	-12.6	V	3.0	40.0	1.0	-51.6	-13.0	-38.6	
7630.00	-6.0	V	3.0	40.0	1.0	-45.0	-13.0	-32.0	
3815.00	-13.7	H	3.0	40.8	1.0	-53.5	-13.0	-40.5	
5722.50	-12.9	H	3.0	40.0	1.0	-51.9	-13.0	-38.9	
7630.00	-5.9	H	3.0	40.0	1.0	-45.0	-13.0	-32.0	

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company:	Samsung								
		Project #:	4788371689								
		Date:	2018-03-23								
		Test Engineer:	47989								
		Configuration:	EUT / Adapter / Earphone, Z-Position								
		Location:	Chamber 3								
		Mode:	LTE_QPSK Band 2 Harmonics, 3MHz Bandwidth								
LTE Band 2 3MHz QPSK	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1851.5MHz										
	3703.00	-14.4	V	3.0	40.9	1.0	-54.3	-13.0	-41.3		
	5554.50	-12.5	V	3.0	40.1	1.0	-51.6	-13.0	-38.6		
	7406.00	-7.4	V	3.0	40.0	1.0	-46.4	-13.0	-33.4		
	3703.00	-13.5	H	3.0	40.9	1.0	-53.4	-13.0	-40.4		
	5554.50	-12.8	H	3.0	40.1	1.0	-51.9	-13.0	-38.9		
	7406.00	-7.8	H	3.0	40.0	1.0	-46.8	-13.0	-33.8		
	Mid Ch, 1880MHz										
	3760.00	-13.9	V	3.0	40.8	1.0	-53.7	-13.0	-40.7		
	5640.00	-12.8	V	3.0	40.0	1.0	-51.8	-13.0	-38.8		
	7520.00	-5.8	V	3.0	40.0	1.0	-44.8	-13.0	-31.8		
	3760.00	-13.5	H	3.0	40.8	1.0	-53.4	-13.0	-40.4		
	5640.00	-12.7	H	3.0	40.0	1.0	-51.8	-13.0	-38.8		
	7520.00	-3.9	H	3.0	40.0	1.0	-42.9	-13.0	-29.9		
	High Ch, 1908.5MHz										
	3817.00	-13.4	V	3.0	40.8	1.0	-53.2	-13.0	-40.2		
	5725.50	-11.3	V	3.0	40.0	1.0	-50.4	-13.0	-37.4		
	7634.00	-5.7	V	3.0	40.0	1.0	-44.8	-13.0	-31.8		
	3817.00	-12.8	H	3.0	40.8	1.0	-52.5	-13.0	-39.5		
	5725.50	-12.8	H	3.0	40.0	1.0	-51.8	-13.0	-38.8		
	7634.00	-5.7	H	3.0	40.0	1.0	-44.8	-13.0	-31.8		

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
		Company:	Samsung								
		Project #:	4788371689								
		Date:	2018-03-23								
		Test Engineer:	47989								
		Configuration:	EUT / Adapter / Earphone, Z-Position								
		Location:	Chamber 3								
		Mode:	LTE_16QAM Band 2 Harmonics, 3MHz Bandwidth								
LTE Band 2 3MHz 16QAM	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch, 1851.5MHz										
	3703.00	-14.1	V	3.0	40.9	1.0	-54.0	-13.0	-41.0		
	5554.50	-12.4	V	3.0	40.1	1.0	-51.5	-13.0	-38.5		
	7406.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7		
	3703.00	-14.4	H	3.0	40.9	1.0	-54.2	-13.0	-41.2		
	5554.50	-13.2	H	3.0	40.1	1.0	-52.3	-13.0	-39.3		
	7406.00	-8.2	H	3.0	40.0	1.0	-47.2	-13.0	-34.2		
	Mid Ch, 1880MHz										
	3760.00	-13.8	V	3.0	40.8	1.0	-53.6	-13.0	-40.6		
	5640.00	-12.8	V	3.0	40.0	1.0	-51.8	-13.0	-38.8		
	7520.00	-6.0	V	3.0	40.0	1.0	-45.1	-13.0	-32.1		
	3760.00	-12.9	H	3.0	40.8	1.0	-52.7	-13.0	-39.7		
	5640.00	-12.7	H	3.0	40.0	1.0	-51.7	-13.0	-38.7		
	7520.00	-6.4	H	3.0	40.0	1.0	-45.4	-13.0	-32.4		
	High Ch, 1908.5MHz										
	3817.00	-13.5	V	3.0	40.8	1.0	-53.3	-13.0	-40.3		
	5725.50	-12.4	V	3.0	40.0	1.0	-51.4	-13.0	-38.4		
	7634.00	-6.1	V	3.0	40.0	1.0	-45.1	-13.0	-32.1		
	3817.00	-15.7	H	3.0	40.8	1.0	-55.5	-13.0	-42.5		
	5725.50	-12.7	H	3.0	40.0	1.0	-51.8	-13.0	-38.8		
	7634.00	-6.0	H	3.0	40.0	1.0	-45.1	-13.0	-32.1		

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788371689 Date: 2018-03-23 Test Engineer: 47989 Configuration: EUT / Adapter / Earphone, Z-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
LTE Band 2 1.4MHz QPSK									
Low Ch, 1850.7MHz									
3701.40	-14.2	V	3.0	40.9	1.0	-54.0	-13.0	-41.0	
5552.10	-11.9	V	3.0	40.1	1.0	-51.0	-13.0	-38.0	
7402.80	-6.8	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
3701.40	-13.2	H	3.0	40.9	1.0	-53.0	-13.0	-40.0	
5552.10	-13.0	H	3.0	40.1	1.0	-52.0	-13.0	-39.0	
7402.80	-8.1	H	3.0	40.0	1.0	-47.1	-13.0	-34.1	
Mid Ch, 1880MHz									
3760.00	-14.3	V	3.0	40.8	1.0	-54.1	-13.0	-41.1	
5640.00	-11.8	V	3.0	40.0	1.0	-50.9	-13.0	-37.9	
7520.00	-6.5	V	3.0	40.0	1.0	-45.6	-13.0	-32.6	
3760.00	-13.7	H	3.0	40.8	1.0	-53.5	-13.0	-40.5	
5640.00	-12.1	H	3.0	40.0	1.0	-51.1	-13.0	-38.1	
7520.00	-7.2	H	3.0	40.0	1.0	-46.2	-13.0	-33.2	
High Ch, 1909.3MHz									
3818.60	-12.9	V	3.0	40.8	1.0	-52.7	-13.0	-39.7	
5727.90	-12.3	V	3.0	40.0	1.0	-51.3	-13.0	-38.3	
7637.20	-5.6	V	3.0	40.0	1.0	-44.7	-13.0	-31.7	
3818.60	-12.7	H	3.0	40.8	1.0	-52.5	-13.0	-39.5	
5727.90	-12.7	H	3.0	40.0	1.0	-51.7	-13.0	-38.7	
7637.20	-5.9	H	3.0	40.0	1.0	-44.9	-13.0	-31.9	
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company: Samsung Project #: 4788371689 Date: 2018-03-23 Test Engineer: 47989 Configuration: EUT / Adapter / Earphone, Z-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
LTE Band 2 1.4MHz 16QAM									
Low Ch, 1850.7MHz									
3701.40	-14.6	V	3.0	40.9	1.0	-54.5	-13.0	-41.5	
5552.10	-13.0	V	3.0	40.1	1.0	-52.0	-13.0	-39.0	
7402.80	-7.4	V	3.0	40.0	1.0	-46.5	-13.0	-33.5	
3701.40	-13.1	H	3.0	40.9	1.0	-53.0	-13.0	-40.0	
5552.10	-12.9	H	3.0	40.1	1.0	-52.0	-13.0	-39.0	
7402.80	-7.7	H	3.0	40.0	1.0	-46.8	-13.0	-33.8	
Mid Ch, 1880MHz									
3760.00	-13.6	V	3.0	40.8	1.0	-53.4	-13.0	-40.4	
5640.00	-12.1	V	3.0	40.0	1.0	-51.2	-13.0	-38.2	
7520.00	-5.5	V	3.0	40.0	1.0	-44.6	-13.0	-31.6	
3760.00	-13.0	H	3.0	40.8	1.0	-52.8	-13.0	-39.8	
5640.00	-13.4	H	3.0	40.0	1.0	-52.5	-13.0	-39.5	
7520.00	-6.7	H	3.0	40.0	1.0	-45.7	-13.0	-32.7	
High Ch, 1909.3MHz									
3818.60	-13.2	V	3.0	40.8	1.0	-53.0	-13.0	-40.0	
5727.90	-12.3	V	3.0	40.0	1.0	-51.4	-13.0	-38.4	
7637.20	-5.7	V	3.0	40.0	1.0	-44.7	-13.0	-31.7	
3818.60	-12.9	H	3.0	40.8	1.0	-52.7	-13.0	-39.7	
5727.90	-12.6	H	3.0	40.0	1.0	-51.6	-13.0	-38.6	
7637.20	-5.6	H	3.0	40.0	1.0	-44.7	-13.0	-31.7	

LTE Band 13

LTE Band 13 10MHz QPSK	<p style="text-align: center;">UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_QPSK Band 13 Harmonics, 10MHz Bandwidth</p> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td colspan="10">Mid Ch, 782MHz</td> </tr> <tr> <td>1564.00</td> <td>-19.3</td> <td>V</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-60.1</td> <td>-40.0</td> <td>-20.1</td> <td></td> </tr> <tr> <td>2346.00</td> <td>-16.2</td> <td>V</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-57.0</td> <td>-13.0</td> <td>-44.0</td> <td></td> </tr> <tr> <td>3128.00</td> <td>-16.1</td> <td>V</td> <td>3.0</td> <td>41.2</td> <td>1.0</td> <td>-56.3</td> <td>-13.0</td> <td>-43.3</td> <td></td> </tr> <tr> <td>1564.00</td> <td>-18.8</td> <td>H</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-59.6</td> <td>-40.0</td> <td>-19.6</td> <td></td> </tr> <tr> <td>2346.00</td> <td>-16.3</td> <td>H</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-57.1</td> <td>-13.0</td> <td>-44.1</td> <td></td> </tr> <tr> <td>3128.00</td> <td>-16.9</td> <td>H</td> <td>3.0</td> <td>41.2</td> <td>1.0</td> <td>-57.1</td> <td>-13.0</td> <td>-44.1</td> <td></td> </tr> </tbody> </table>										f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Mid Ch, 782MHz										1564.00	-19.3	V	3.0	41.8	1.0	-60.1	-40.0	-20.1		2346.00	-16.2	V	3.0	41.8	1.0	-57.0	-13.0	-44.0		3128.00	-16.1	V	3.0	41.2	1.0	-56.3	-13.0	-43.3		1564.00	-18.8	H	3.0	41.8	1.0	-59.6	-40.0	-19.6		2346.00	-16.3	H	3.0	41.8	1.0	-57.1	-13.0	-44.1		3128.00	-16.9	H	3.0	41.2	1.0	-57.1	-13.0	-44.1	
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LTE Band 13 10MHz 16QAM	<p style="text-align: center;">UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement</p> <p>Company: Samsung Project #: 4788371689 Date: 2018-03-26 Test Engineer: 45585 Configuration: EUT / Adapter / Earphone, Z-Position Location: Chamber 3 Mode: LTE_16QAM Band 13 Harmonics, 10MHz Bandwidth</p> <table border="1"> <thead> <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> </thead> <tbody> <tr> <td colspan="10">Mid Ch, 782MHz</td> </tr> <tr> <td>1564.00</td> <td>-19.4</td> <td>V</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-60.2</td> <td>-40.0</td> <td>-20.2</td> <td></td> </tr> <tr> <td>2346.00</td> <td>-16.3</td> <td>V</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-57.1</td> <td>-13.0</td> <td>-44.1</td> <td></td> </tr> <tr> <td>3128.00</td> <td>-16.5</td> <td>V</td> <td>3.0</td> <td>41.2</td> <td>1.0</td> <td>-56.7</td> <td>-13.0</td> <td>-43.7</td> <td></td> </tr> <tr> <td>1564.00</td> <td>-19.0</td> <td>H</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-59.8</td> <td>-40.0</td> <td>-19.8</td> <td></td> </tr> <tr> <td>2346.00</td> <td>-16.9</td> <td>H</td> <td>3.0</td> <td>41.8</td> <td>1.0</td> <td>-57.7</td> <td>-13.0</td> <td>-44.7</td> <td></td> </tr> <tr> <td>3128.00</td> <td>-16.2</td> <td>H</td> <td>3.0</td> <td>41.2</td> <td>1.0</td> <td>-56.4</td> <td>-13.0</td> <td>-43.4</td> <td></td> </tr> </tbody> </table>										f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Mid Ch, 782MHz										1564.00	-19.4	V	3.0	41.8	1.0	-60.2	-40.0	-20.2		2346.00	-16.3	V	3.0	41.8	1.0	-57.1	-13.0	-44.1		3128.00	-16.5	V	3.0	41.2	1.0	-56.7	-13.0	-43.7		1564.00	-19.0	H	3.0	41.8	1.0	-59.8	-40.0	-19.8		2346.00	-16.9	H	3.0	41.8	1.0	-57.7	-13.0	-44.7		3128.00	-16.2	H	3.0	41.2	1.0	-56.4	-13.0	-43.4	
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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LTE Band 12

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement							
		Company:	Samsung						
		Project #:	4788371689						
		Date:	2018-03-26						
		Test Engineer:	45585						
		Configuration:	EUT / Adapter / Earphone, Z-Position						
		Location:	Chamber 3						
		Mode:	LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth						
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704MHz									
1408.00	-14.4	V	3.0	41.7	1.0	-55.1	-13.0	-42.1	
2112.00	-13.6	V	3.0	42.0	1.0	-54.6	-13.0	-41.6	
2816.00	-16.8	V	3.0	41.5	1.0	-57.3	-13.0	-44.3	
3520.00	-11.9	V	3.0	41.0	1.0	-51.9	-13.0	-38.9	
1408.00	-14.2	H	3.0	41.7	1.0	-54.8	-13.0	-41.8	
2112.00	-9.9	H	3.0	42.0	1.0	-50.9	-13.0	-37.9	
2816.00	-17.3	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
3520.00	-14.0	H	3.0	41.0	1.0	-54.0	-13.0	-41.0	
Mid Ch, 707.5MHz									
1415.00	-16.4	V	3.0	41.7	1.0	-57.1	-13.0	-44.1	
2122.50	-13.4	V	3.0	41.9	1.0	-54.3	-13.0	-41.3	
2830.00	-16.4	V	3.0	41.4	1.0	-56.8	-13.0	-43.8	
3537.50	-12.9	V	3.0	41.0	1.0	-52.9	-13.0	-39.9	
1415.00	-16.2	H	3.0	41.7	1.0	-56.9	-13.0	-43.9	
2122.50	-19.5	H	3.0	41.9	1.0	-60.5	-13.0	-47.5	
2830.00	-17.1	H	3.0	41.4	1.0	-57.6	-13.0	-44.6	
3537.50	-15.5	H	3.0	41.0	1.0	-55.5	-13.0	-42.5	
High Ch, 711MHz									
1422.00	-18.4	V	3.0	41.7	1.0	-59.1	-13.0	-46.1	
2133.00	-12.8	V	3.0	41.9	1.0	-53.7	-13.0	-40.7	
2844.00	-16.7	V	3.0	41.4	1.0	-57.1	-13.0	-44.1	
3555.00	-11.3	V	3.0	41.0	1.0	-51.3	-13.0	-38.3	
1422.00	-17.9	H	3.0	41.7	1.0	-58.6	-13.0	-45.6	
2133.00	-10.4	H	3.0	41.9	1.0	-51.4	-13.0	-38.4	
2844.00	-16.6	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
3555.00	-13.2	H	3.0	41.0	1.0	-53.1	-13.0	-40.1	

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement							
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		Project #:	4788371689						
		Date:	2018-03-26						
		Test Engineer:	45585						
		Configuration:	EUT / Adapter / Earphone, Z-Position						
		Location:	Chamber 3						
		Mode:	LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth						
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704MHz									
1408.00	-14.8	V	3.0	41.7	1.0	-55.5	-13.0	-42.5	
2112.00	-12.0	V	3.0	42.0	1.0	-53.0	-13.0	-40.0	
2816.00	-16.3	V	3.0	41.5	1.0	-56.7	-13.0	-43.7	
3520.00	-9.5	V	3.0	41.0	1.0	-49.5	-13.0	-36.5	
1408.00	-14.5	H	3.0	41.7	1.0	-55.1	-13.0	-42.1	
2112.00	-8.2	H	3.0	42.0	1.0	-49.1	-13.0	-36.1	
2816.00	-16.4	H	3.0	41.5	1.0	-56.8	-13.0	-43.8	
3520.00	-12.6	H	3.0	41.0	1.0	-52.5	-13.0	-39.5	
Mid Ch, 707.5MHz									
1415.00	-16.2	V	3.0	41.7	1.0	-56.8	-13.0	-43.8	
2122.50	-13.6	V	3.0	41.9	1.0	-54.5	-13.0	-41.5	
2830.00	-16.4	V	3.0	41.4	1.0	-56.8	-13.0	-43.8	
3537.50	-12.9	V	3.0	41.0	1.0	-52.8	-13.0	-39.8	
1415.00	-17.0	H	3.0	41.7	1.0	-57.6	-13.0	-44.6	
2122.50	-11.2	H	3.0	41.9	1.0	-52.2	-13.0	-39.2	
2830.00	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6	
3537.50	-15.1	H	3.0	41.0	1.0	-55.1	-13.0	-42.1	
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1422.00	-18.4	V	3.0	41.7	1.0	-59.1	-13.0	-46.1	
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1422.00	-17.7	H	3.0	41.7	1.0	-58.4	-13.0	-45.4	
2133.00	-9.5	H	3.0	41.9	1.0	-50.5	-13.0	-37.5	
2844.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
3555.00	-13.1	H	3.0	41.0	1.0	-53.1	-13.0	-40.1	