

10.2.1. SPURIOUS RADIATION PLOTS

CDMA BC0

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788886237							
Date:		2019-04-16							
Test Engineer:		45585							
Configuration:		EUT / Z-Position							
Location:		Chamber 1							
Mode:		RTT BC0 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, 824.7MHz									
1649.40	-14.2	V	3.0	43.6	1.0	-56.8	-13.0	-43.8	
2474.10	-11.3	V	3.0	43.4	1.0	-53.8	-13.0	-40.8	
3298.80	-9.6	V	3.0	43.6	1.0	-52.3	-13.0	-39.3	
1649.40	-15.1	H	3.0	43.6	1.0	-57.7	-13.0	-44.7	
2474.10	-11.7	H	3.0	43.4	1.0	-54.2	-13.0	-41.2	
3298.80	-9.6	H	3.0	43.6	1.0	-52.3	-13.0	-39.3	
Mid Ch, 836.52MHz									
1673.04	-14.1	V	3.0	43.6	1.0	-56.7	-13.0	-43.7	
2509.56	-10.9	V	3.0	43.4	1.0	-53.3	-13.0	-40.3	
3346.08	-8.8	V	3.0	43.6	1.0	-51.5	-13.0	-38.5	
1673.04	-15.4	H	3.0	43.6	1.0	-58.0	-13.0	-45.0	
2509.56	-11.8	H	3.0	43.4	1.0	-54.2	-13.0	-41.2	
3346.08	-9.1	H	3.0	43.6	1.0	-51.7	-13.0	-38.7	
High Ch, 848.31MHz									
1696.62	-13.9	V	3.0	43.6	1.0	-56.5	-13.0	-43.5	
2544.93	-11.2	V	3.0	43.4	1.0	-53.7	-13.0	-40.7	
3393.24	-8.6	V	3.0	43.7	1.0	-51.3	-13.0	-38.3	
1696.62	-15.0	H	3.0	43.6	1.0	-57.5	-13.0	-44.5	
2544.93	-11.9	H	3.0	43.4	1.0	-54.4	-13.0	-41.4	
3393.24	-8.7	H	3.0	43.7	1.0	-51.4	-13.0	-38.4	

BC0
1xRTT

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788886237							
Date:		2019-04-16							
Test Engineer:		45585							
Configuration:		EUT / AC Adapter / Earphone, Y-Position							
Location:		Chamber 1							
Mode:		EVDO BC0 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, 824.7MHz									
1649.40	-13.6	V	3.0	43.6	1.0	-56.2	-13.0	-43.2	
2474.10	-10.4	V	3.0	43.4	1.0	-52.8	-13.0	-39.8	
3298.80	-9.4	V	3.0	43.6	1.0	-52.1	-13.0	-39.1	
1649.40	-14.5	H	3.0	43.6	1.0	-57.1	-13.0	-44.1	
2474.10	-11.6	H	3.0	43.4	1.0	-54.0	-13.0	-41.0	
3298.80	-9.5	H	3.0	43.6	1.0	-52.2	-13.0	-39.2	
Mid Ch, 836.52MHz									
1673.04	-11.8	V	3.0	43.6	1.0	-54.4	-13.0	-41.4	
2509.56	-9.5	V	3.0	43.4	1.0	-51.9	-13.0	-38.9	
3346.08	-9.0	V	3.0	43.6	1.0	-51.6	-13.0	-38.6	
1673.04	-13.9	H	3.0	43.6	1.0	-56.5	-13.0	-43.5	
2509.56	-10.8	H	3.0	43.4	1.0	-53.2	-13.0	-40.2	
3346.08	-9.2	H	3.0	43.6	1.0	-51.8	-13.0	-38.8	
High Ch, 848.31MHz									
1696.62	-12.8	V	3.0	43.6	1.0	-55.4	-13.0	-42.4	
2544.93	-11.1	V	3.0	43.4	1.0	-53.5	-13.0	-40.5	
3393.24	-8.5	V	3.0	43.7	1.0	-51.1	-13.0	-38.1	
1696.62	-13.3	H	3.0	43.6	1.0	-55.9	-13.0	-42.9	
2544.93	-11.4	H	3.0	43.4	1.0	-53.8	-13.0	-40.8	
3393.24	-8.8	H	3.0	43.7	1.0	-51.5	-13.0	-38.5	

BC0
EVDO Rel.0

GSM850

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788886234 Date: 2019-03-26 Test Engineer: 45585 Configuration: EUT / AC Adapter, X-Position_camera 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	-7.3	V	3.0	38.2	1.0	-44.5	-13.0	-31.5		
2472.60	-11.6	V	3.0	38.8	1.0	-49.4	-13.0	-36.4		
3296.80	-9.3	V	3.0	39.4	1.0	-47.7	-13.0	-34.7		
1648.40	-6.2	H	3.0	38.2	1.0	-43.4	-13.0	-30.4		
2472.60	-11.6	H	3.0	38.8	1.0	-49.4	-13.0	-36.4		
3296.80	-9.1	H	3.0	39.4	1.0	-47.6	-13.0	-34.6		
Mid Ch, 836.6MHz										
1673.20	-10.5	V	3.0	38.2	1.0	-47.7	-13.0	-34.7		
2509.80	-10.9	V	3.0	38.8	1.0	-48.7	-13.0	-35.7		
3346.40	-10.2	V	3.0	39.5	1.0	-48.7	-13.0	-35.7		
1673.20	-9.4	H	3.0	38.2	1.0	-46.7	-13.0	-33.7		
2509.80	-9.6	H	3.0	38.8	1.0	-47.4	-13.0	-34.4		
3346.40	-9.6	H	3.0	39.5	1.0	-48.0	-13.0	-35.0		
High Ch, 848.8MHz										
1697.60	-7.9	V	3.0	38.2	1.0	-45.2	-13.0	-32.2		
2546.40	-11.6	V	3.0	38.9	1.0	-49.5	-13.0	-36.5		
3395.20	-8.9	V	3.0	39.5	1.0	-47.4	-13.0	-34.4		
1697.60	-8.9	H	3.0	38.2	1.0	-46.2	-13.0	-33.2		
2546.40	-12.8	H	3.0	38.9	1.0	-50.7	-13.0	-37.7		
3395.20	-9.0	H	3.0	39.5	1.0	-47.5	-13.0	-34.5		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung Project #: 4788886234 Date: 2019-03-26 Test Engineer: 45585 Configuration: EUT / AC Adapter, X-Position_camera 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	-10.5	V	3.0	38.2	1.0	-47.7	-13.0	-34.7		
2472.60	-12.0	V	3.0	38.8	1.0	-49.8	-13.0	-36.8		
3296.80	-9.2	V	3.0	39.4	1.0	-47.6	-13.0	-34.6		
1648.40	-15.2	H	3.0	38.2	1.0	-52.4	-13.0	-39.4		
2472.60	-12.4	H	3.0	38.8	1.0	-50.2	-13.0	-37.2		
3296.80	-9.4	H	3.0	39.4	1.0	-47.9	-13.0	-34.9		
Mid Ch, 836.6MHz										
1673.20	-13.0	V	3.0	38.2	1.0	-50.3	-13.0	-37.3		
2509.80	-11.5	V	3.0	38.8	1.0	-49.3	-13.0	-36.3		
3346.40	-9.0	V	3.0	39.5	1.0	-47.5	-13.0	-34.5		
1673.20	-12.9	H	3.0	38.2	1.0	-50.1	-13.0	-37.1		
2509.80	-11.9	H	3.0	38.8	1.0	-49.8	-13.0	-36.8		
3346.40	-9.5	H	3.0	39.5	1.0	-47.9	-13.0	-34.9		
High Ch, 848.8MHz										
1697.60	-9.1	V	3.0	38.2	1.0	-46.4	-13.0	-33.4		
2546.40	-11.5	V	3.0	38.9	1.0	-49.3	-13.0	-36.3		
3395.20	-9.0	V	3.0	39.5	1.0	-47.5	-13.0	-34.5		
1697.60	-14.9	H	3.0	38.2	1.0	-52.2	-13.0	-39.2		
2546.40	-12.0	H	3.0	38.9	1.0	-49.9	-13.0	-36.9		
3395.20	-9.3	H	3.0	39.5	1.0	-47.8	-13.0	-34.8		

GSM1900

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788886234							
Date:		2019-03-26							
Test Engineer:		45585							
Configuration:		EUT / AC Adapter, 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	-8.3	V	3.0	39.7	1.0	-47.0	-13.0	-34.0	
5550.60	-3.3	V	3.0	39.9	1.0	-42.3	-13.0	-29.3	
7400.80	-3.9	V	3.0	39.4	1.0	-42.3	-13.0	-29.3	
3700.40	-9.8	H	3.0	39.7	1.0	-48.4	-13.0	-35.4	
5550.60	-3.8	H	3.0	39.9	1.0	-42.7	-13.0	-29.7	
7400.80	-5.6	H	3.0	39.4	1.0	-44.0	-13.0	-31.0	
Mid Ch, 1880MHz									
3760.00	-9.2	V	3.0	39.7	1.0	-47.9	-13.0	-34.9	
5640.00	-3.4	V	3.0	40.0	1.0	-42.4	-13.0	-29.4	
7520.00	-4.1	V	3.0	39.4	1.0	-42.5	-13.0	-29.5	
3760.00	-9.6	H	3.0	39.7	1.0	-48.3	-13.0	-35.3	
5640.00	-1.2	H	3.0	40.0	1.0	-40.1	-13.0	-27.1	
7520.00	-5.1	H	3.0	39.4	1.0	-43.5	-13.0	-30.5	
High Ch, 1909.8MHz									
3819.60	-7.3	V	3.0	39.7	1.0	-46.0	-13.0	-33.0	
5729.40	-3.4	V	3.0	40.0	1.0	-42.4	-13.0	-29.4	
7639.20	-2.6	V	3.0	39.3	1.0	-41.0	-13.0	-28.0	
3819.60	-6.0	H	3.0	39.7	1.0	-44.7	-13.0	-31.7	
5729.40	0.7	H	3.0	40.0	1.0	-38.3	-13.0	-25.3	
7639.20	-4.8	H	3.0	39.3	1.0	-43.1	-13.0	-30.1	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788886234							
Date:		2019-03-26							
Test Engineer:		45585							
Configuration:		EUT / AC Adapter, 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	-10.0	V	3.0	39.7	1.0	-48.7	-13.0	-35.7	
5550.60	-7.0	V	3.0	39.9	1.0	-45.9	-13.0	-32.9	
7400.80	-5.0	V	3.0	39.4	1.0	-43.4	-13.0	-30.4	
3700.40	-10.3	H	3.0	39.7	1.0	-49.0	-13.0	-36.0	
5550.60	-7.1	H	3.0	39.9	1.0	-46.0	-13.0	-33.0	
7400.80	-6.0	H	3.0	39.4	1.0	-44.4	-13.0	-31.4	
Mid Ch, 1880MHz									
3760.00	-7.7	V	3.0	39.7	1.0	-46.4	-13.0	-33.4	
5640.00	-6.9	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
7520.00	-5.1	V	3.0	39.4	1.0	-43.5	-13.0	-30.5	
3760.00	-8.8	H	3.0	39.7	1.0	-47.5	-13.0	-34.5	
5640.00	-6.2	H	3.0	40.0	1.0	-45.1	-13.0	-32.1	
7520.00	-5.9	H	3.0	39.4	1.0	-44.3	-13.0	-31.3	
High Ch, 1909.8MHz									
3819.60	-6.2	V	3.0	39.7	1.0	-44.9	-13.0	-31.9	
5729.40	-7.0	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
7639.20	-5.1	V	3.0	39.3	1.0	-43.4	-13.0	-30.4	
3819.60	-5.9	H	3.0	39.7	1.0	-44.6	-13.0	-31.6	
5729.40	-5.9	H	3.0	40.0	1.0	-44.9	-13.0	-31.9	
7639.20	-5.9	H	3.0	39.3	1.0	-44.3	-13.0	-31.3	

WCDMA Band 5

		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
WCDMA Band 5 REL99	Company:	Samsung								
	Project #:	4788886234								
	Date:	2019-03-25								
	Test Engineer:	47989								
	Configuration:	EUT / AC Adapter, Z-Position								
	Location:	Chamber 1								
	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	-14.9	V	3.0	43.6	1.0	-57.5	-13.0	-44.5	
	2479.20	-12.5	V	3.0	43.4	1.0	-54.9	-13.0	-41.9	
	3305.60	-10.5	V	3.0	43.6	1.0	-53.1	-13.0	-40.1	
	1652.80	-15.5	H	3.0	43.6	1.0	-58.1	-13.0	-45.1	
	2479.20	-13.2	H	3.0	43.4	1.0	-55.6	-13.0	-42.6	
	3305.60	-10.6	H	3.0	43.6	1.0	-53.3	-13.0	-40.3	
	Mid Ch, 836.6MHz									
	1673.20	-14.1	V	3.0	43.6	1.0	-56.7	-13.0	-43.7	
	2509.80	-12.4	V	3.0	43.4	1.0	-54.8	-13.0	-41.8	
	3346.40	-10.5	V	3.0	43.6	1.0	-53.2	-13.0	-40.2	
	1673.20	-14.0	H	3.0	43.6	1.0	-56.5	-13.0	-43.5	
	2509.80	-13.1	H	3.0	43.4	1.0	-55.5	-13.0	-42.5	
	3346.40	-10.6	H	3.0	43.6	1.0	-53.3	-13.0	-40.3	
	High Ch, 846.6MHz									
	1693.20	-14.2	V	3.0	43.6	1.0	-56.7	-13.0	-43.7	
	2539.80	-12.5	V	3.0	43.4	1.0	-55.0	-13.0	-42.0	
3386.40	-10.1	V	3.0	43.7	1.0	-52.7	-13.0	-39.7		
1693.20	-14.0	H	3.0	43.6	1.0	-56.6	-13.0	-43.6		
2539.80	-13.1	H	3.0	43.4	1.0	-55.5	-13.0	-42.5		
3386.40	-10.1	H	3.0	43.7	1.0	-52.8	-13.0	-39.8		
		UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
WCDMA Band 5 HSDPA	Company:	Samsung								
	Project #:	4788886234								
	Date:	2019-03-25								
	Test Engineer:	47989								
	Configuration:	EUT / AC Adapter, Z-Position								
	Location:	Chamber 1								
	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	-15.1	V	3.0	43.6	1.0	-57.6	-13.0	-44.6	
	2479.20	-12.4	V	3.0	43.4	1.0	-54.8	-13.0	-41.8	
	3305.60	-10.5	V	3.0	43.6	1.0	-53.1	-13.0	-40.1	
	1652.80	-15.6	H	3.0	43.6	1.0	-58.2	-13.0	-45.2	
	2479.20	-13.1	H	3.0	43.4	1.0	-55.5	-13.0	-42.5	
	3305.60	-10.7	H	3.0	43.6	1.0	-53.3	-13.0	-40.3	
	Mid Ch, 836.6MHz									
	1673.20	-14.2	V	3.0	43.6	1.0	-56.8	-13.0	-43.8	
	2509.80	-12.5	V	3.0	43.4	1.0	-54.9	-13.0	-41.9	
	3346.40	-10.5	V	3.0	43.6	1.0	-53.1	-13.0	-40.1	
	1673.20	-14.5	H	3.0	43.6	1.0	-57.1	-13.0	-44.1	
	2509.80	-13.1	H	3.0	43.4	1.0	-55.5	-13.0	-42.5	
	3346.40	-10.7	H	3.0	43.6	1.0	-53.3	-13.0	-40.3	
	High Ch, 846.6MHz									
	1693.20	-14.5	V	3.0	43.6	1.0	-57.0	-13.0	-44.0	
	2539.80	-12.5	V	3.0	43.4	1.0	-54.9	-13.0	-41.9	
3386.40	-10.0	V	3.0	43.7	1.0	-52.6	-13.0	-39.6		
1693.20	-14.6	H	3.0	43.6	1.0	-57.1	-13.0	-44.1		
2539.80	-13.1	H	3.0	43.4	1.0	-55.6	-13.0	-42.6		
3386.40	-10.0	H	3.0	43.7	1.0	-52.7	-13.0	-39.7		

WCDMA Band 2

		UL Verification Services, Inc.									
		Above 1GHz High Frequency Substitution Measurement									
WCDMA Band 2 REL99		Company:		Samsung							
		Project #:		4788886234							
		Date:		2019-03-06							
		Test Engineer:		45585							
		Configuration:		EUT / AC Adapter, Y-Position, Camera							
		Location:		Chamber 2							
		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	-9.1	V	3.0	39.7	1.0	-47.8	-13.0	-34.8	
		5557.20	-8.2	V	3.0	39.9	1.0	-47.1	-13.0	-34.1	
		7409.60	-6.1	V	3.0	39.4	1.0	-44.5	-13.0	-31.5	
		3704.80	-10.4	H	3.0	39.7	1.0	-49.0	-13.0	-36.0	
		5557.20	-8.6	H	3.0	39.9	1.0	-47.5	-13.0	-34.5	
		7409.60	-7.0	H	3.0	39.4	1.0	-45.5	-13.0	-32.5	
		Mid Ch, 1880MHz									
		3760.00	-7.9	V	3.0	39.7	1.0	-46.6	-13.0	-33.6	
		5640.00	-8.0	V	3.0	40.0	1.0	-47.0	-13.0	-34.0	
		7520.00	-6.3	V	3.0	39.4	1.0	-44.7	-13.0	-31.7	
		3760.00	-9.5	H	3.0	39.7	1.0	-48.1	-13.0	-35.1	
		5640.00	-8.3	H	3.0	40.0	1.0	-47.3	-13.0	-34.3	
		7520.00	-7.1	H	3.0	39.4	1.0	-45.5	-13.0	-32.5	
		High Ch, 1907.6MHz									
		3815.20	-7.9	V	3.0	39.7	1.0	-46.6	-13.0	-33.6	
		5722.80	-8.1	V	3.0	40.0	1.0	-47.1	-13.0	-34.1	
		7630.40	-6.2	V	3.0	39.3	1.0	-44.6	-13.0	-31.6	
		3815.20	-9.4	H	3.0	39.7	1.0	-48.1	-13.0	-35.1	
		5722.80	-8.4	H	3.0	40.0	1.0	-47.4	-13.0	-34.4	
		7630.40	-7.0	H	3.0	39.3	1.0	-45.3	-13.0	-32.3	
		UL Verification Services, Inc.									
		Above 1GHz High Frequency Substitution Measurement									
WCDMA Band 2 HSDPA		Company:		Samsung							
		Project #:		4788886234							
		Date:		2019-03-06							
		Test Engineer:		45585							
		Configuration:		EUT / AC Adapter, Y-Position, Camera							
		Location:		Chamber 2							
		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	-9.7	V	3.0	39.7	1.0	-48.4	-13.0	-35.4	
		5557.20	-8.3	V	3.0	39.9	1.0	-47.2	-13.0	-34.2	
		7409.60	-6.2	V	3.0	39.4	1.0	-44.6	-13.0	-31.6	
		3704.80	-10.6	H	3.0	39.7	1.0	-49.3	-13.0	-36.3	
		5557.20	-8.6	H	3.0	39.9	1.0	-47.5	-13.0	-34.5	
		7409.60	-7.0	H	3.0	39.4	1.0	-45.4	-13.0	-32.4	
		Mid Ch, 1880MHz									
		3760.00	-8.6	V	3.0	39.7	1.0	-47.3	-13.0	-34.3	
		5640.00	-8.0	V	3.0	40.0	1.0	-47.0	-13.0	-34.0	
		7520.00	-6.3	V	3.0	39.4	1.0	-44.7	-13.0	-31.7	
		3760.00	-10.1	H	3.0	39.7	1.0	-48.8	-13.0	-35.8	
		5640.00	-8.3	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
		7520.00	-7.1	H	3.0	39.4	1.0	-45.5	-13.0	-32.5	
		High Ch, 1907.6MHz									
		3815.20	-8.6	V	3.0	39.7	1.0	-47.4	-13.0	-34.4	
		5722.80	-8.2	V	3.0	40.0	1.0	-47.2	-13.0	-34.2	
		7630.40	-6.4	V	3.0	39.3	1.0	-44.7	-13.0	-31.7	
		3815.20	-9.8	H	3.0	39.7	1.0	-48.5	-13.0	-35.5	
		5722.80	-8.8	H	3.0	40.0	1.0	-47.8	-13.0	-34.8	
		7630.40	-7.0	H	3.0	39.3	1.0	-45.4	-13.0	-32.4	

LTE Band 4

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 4 15MHz QPSK		Company: Samsung Project #: 4788886237 Date: 2019-04-15 Test Engineer: 45585 Configuration: EUT / AC Adapter, Y-Position Location: Chamber 1 Mode: LTE_QPSK Band 4 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	-3.3	V	3.0	43.7	1.0	-46.0	-13.0	-33.0	
		5152.50	1.9	V	3.0	43.8	1.0	-40.9	-13.0	-27.9	
		6870.00	-2.7	V	3.0	42.8	1.0	-44.5	-13.0	-31.5	
		3435.00	-2.5	H	3.0	43.7	1.0	-45.1	-13.0	-32.1	
		5152.50	5.4	H	3.0	43.8	1.0	-37.4	-13.0	-24.4	
		6870.00	-2.6	H	3.0	42.8	1.0	-44.4	-13.0	-31.4	
		Mid Ch, 1732.5MHz									
3465.00	-2.8	V	3.0	43.7	1.0	-45.5	-13.0	-32.5			
5197.50	1.7	V	3.0	43.8	1.0	-41.1	-13.0	-28.1			
6930.00	-2.3	V	3.0	42.8	1.0	-44.1	-13.0	-31.1			
3465.00	-2.0	H	3.0	43.7	1.0	-44.7	-13.0	-31.7			
5197.50	5.5	H	3.0	43.8	1.0	-37.3	-13.0	-24.3			
6930.00	-1.3	H	3.0	42.8	1.0	-43.1	-13.0	-30.1			
High Ch, 1747.5MHz											
3495.00	-1.9	V	3.0	43.7	1.0	-44.6	-13.0	-31.6			
5242.50	2.2	V	3.0	43.8	1.0	-40.6	-13.0	-27.6			
6990.00	-1.8	V	3.0	42.7	1.0	-43.6	-13.0	-30.6			
3495.00	-2.6	H	3.0	43.7	1.0	-45.3	-13.0	-32.3			
5242.50	5.8	H	3.0	43.8	1.0	-36.9	-13.0	-23.9			
6990.00	-0.9	H	3.0	42.7	1.0	-42.6	-13.0	-29.6			

LTE Band 5

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788886234							
Date:		2019-03-09							
Test Engineer:		47989							
Configuration:		EUT / AC Adapter, Z-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
Low Ch, 826.5MHz									
1653.00	-13.8	V	3.0	38.2	1.0	-51.1	-13.0	-38.1	
2479.50	-12.5	V	3.0	38.8	1.0	-50.3	-13.0	-37.3	
3306.00	-10.2	V	3.0	39.4	1.0	-48.6	-13.0	-35.6	
4132.50	-9.1	V	3.0	39.8	1.0	-47.9	-13.0	-34.9	
1653.00	-14.3	H	3.0	38.2	1.0	-51.5	-13.0	-38.5	
2479.50	-13.3	H	3.0	38.8	1.0	-51.1	-13.0	-38.1	
3306.00	-10.4	H	3.0	39.4	1.0	-48.8	-13.0	-35.8	
4132.50	-10.3	H	3.0	39.8	1.0	-49.1	-13.0	-36.1	
Mid Ch, 836.5MHz									
1673.00	-13.4	V	3.0	38.2	1.0	-50.6	-13.0	-37.6	
2509.50	-12.4	V	3.0	38.8	1.0	-50.2	-13.0	-37.2	
3346.00	-10.1	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
4182.50	-9.0	V	3.0	39.8	1.0	-47.8	-13.0	-34.8	
1673.00	-14.2	H	3.0	38.2	1.0	-51.4	-13.0	-38.4	
2509.50	-13.1	H	3.0	38.8	1.0	-51.0	-13.0	-38.0	
3346.00	-10.3	H	3.0	39.5	1.0	-48.8	-13.0	-35.8	
4182.50	-9.8	H	3.0	39.8	1.0	-48.6	-13.0	-35.6	
High Ch, 846.5MHz									
1693.00	-13.3	V	3.0	38.2	1.0	-50.5	-13.0	-37.5	
2539.50	-12.5	V	3.0	38.9	1.0	-50.4	-13.0	-37.4	
3386.00	-9.9	V	3.0	39.5	1.0	-48.4	-13.0	-35.4	
4232.50	-10.2	V	3.0	39.8	1.0	-49.0	-13.0	-36.0	
1693.00	-14.5	H	3.0	38.2	1.0	-51.7	-13.0	-38.7	
2539.50	-13.0	H	3.0	38.9	1.0	-50.8	-13.0	-37.8	
3386.00	-10.2	H	3.0	39.5	1.0	-48.7	-13.0	-35.7	
4232.50	-10.5	H	3.0	39.8	1.0	-49.3	-13.0	-36.3	

LTE
 Band 5
 5MHz
 QPSK

LTE Band 12

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 12 10MHz QPSK		Company: Samsung Project #: 4788886237 Date: 2019-04-17 Test Engineer: 45585 Configuration: EUT / AC Adapter, Z-Position Location: Chamber 2 Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth									
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, 700.5MHz									
		1401.00	-16.5	V	3.0	38.1	1.0	-53.6	-13.0	-40.6	
		2101.50	-13.5	V	3.0	38.5	1.0	-51.0	-13.0	-38.0	
		2802.00	-11.7	V	3.0	39.1	1.0	-49.8	-13.0	-36.8	
		1401.00	-17.5	H	3.0	38.1	1.0	-54.6	-13.0	-41.6	
		2101.50	-14.5	H	3.0	38.5	1.0	-52.0	-13.0	-39.0	
		2802.00	-12.0	H	3.0	39.1	1.0	-50.1	-13.0	-37.1	
		Mid Ch, 707.5MHz									
1415.00	-16.3	V	3.0	38.1	1.0	-53.4	-13.0	-40.4			
2122.50	-13.4	V	3.0	38.5	1.0	-50.9	-13.0	-37.9			
2830.00	-11.7	V	3.0	39.1	1.0	-49.8	-13.0	-36.8			
1415.00	-17.4	H	3.0	38.1	1.0	-54.5	-13.0	-41.5			
2122.50	-14.4	H	3.0	38.5	1.0	-51.9	-13.0	-38.9			
2830.00	-12.1	H	3.0	39.1	1.0	-50.2	-13.0	-37.2			
High Ch, 714.5MHz											
1429.00	-16.3	V	3.0	38.1	1.0	-53.4	-13.0	-40.4			
2143.50	-13.5	V	3.0	38.5	1.0	-51.0	-13.0	-38.0			
2858.00	-11.3	V	3.0	39.1	1.0	-49.5	-13.0	-36.5			
1429.00	-17.4	H	3.0	38.1	1.0	-54.5	-13.0	-41.5			
2143.50	-14.4	H	3.0	38.5	1.0	-51.9	-13.0	-38.9			
2858.00	-11.7	H	3.0	39.1	1.0	-49.9	-13.0	-36.9			

LTE Band 41

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement											
LTE Band 41 20MHz QPSK		Company: Samsung Project #: 4788886237 Date: 2019-04-09 Test Engineer: 45585 Configuration: EUT / AC Adapter, Y-Position Location: Chamber 2 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
		Low Ch, 2565MHz									
		5130.00	-13.2	V	3.0	39.8	1.0	-52.0	-25.0	-27.0	
		7695.00	1.9	V	3.0	39.3	1.0	-36.4	-25.0	-11.4	
		10260.00	-9.9	V	3.0	38.6	1.0	-47.5	-25.0	-22.5	
Mid Ch, 2593MHz											
5130.00	-11.0	H	3.0	39.8	1.0	-49.9	-25.0	-24.9			
7695.00	-4.4	H	3.0	39.3	1.0	-42.7	-25.0	-17.7			
10260.00	-8.5	H	3.0	38.6	1.0	-46.0	-25.0	-21.0			
High Ch, 2645MHz											
5186.00	-11.2	V	3.0	39.8	1.0	-50.0	-25.0	-25.0			
7779.00	3.8	V	3.0	39.3	1.0	-34.5	-25.0	-9.5			
10372.00	-9.3	V	3.0	38.6	1.0	-46.9	-25.0	-21.9			
5186.00	-5.3	H	3.0	39.8	1.0	-44.2	-25.0	-19.2			
7779.00	-2.0	H	3.0	39.3	1.0	-40.2	-25.0	-15.2			
10372.00	-8.9	H	3.0	38.6	1.0	-46.4	-25.0	-21.4			
High Ch, 2645MHz											
5290.00	-4.8	V	3.0	39.9	1.0	-43.6	-25.0	-18.6			
7935.00	2.7	V	3.0	39.2	1.0	-35.5	-25.0	-10.5			
10580.00	-8.5	V	3.0	38.6	1.0	-46.0	-25.0	-21.0			
5290.00	-5.7	H	3.0	39.9	1.0	-44.5	-25.0	-19.5			
7935.00	1.4	H	3.0	39.2	1.0	-36.8	-25.0	-11.8			
10580.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7			

LTE Band 17

LTE Band 17 (Frequency range: 704-716 MHz) is covered by LTE Band 12 (Frequency range: 699-716 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.