

Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4788103295 Date: 08-22-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 5MHz BW, QPSK										
Chamber		Pre-amplifier		Filter		Limit				
Chamber 2		AFS42		Filter 1		Part 22				
LTE Band 5 5MHz QPSK	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (826.5MHz)									
	1.6530	-16.9	V	3.0	38.2	1.0	-54.1	-13.0	-41.1	
	2.4790	-5.9	V	3.0	38.8	1.0	-43.7	-13.0	-30.7	
	3.3060	-10.7	V	3.0	39.4	1.0	-49.1	-13.0	-36.1	
	4.1325	-12.3	V	3.0	39.8	1.0	-51.1	-13.0	-38.1	
	1.6530	-16.2	H	3.0	38.2	1.0	-53.4	-13.0	-40.4	
	2.4790	-5.5	H	3.0	38.8	1.0	-43.3	-13.0	-30.3	
	3.3060	-9.4	H	3.0	39.4	1.0	-47.8	-13.0	-34.8	
	4.1325	-10.5	H	3.0	39.8	1.0	-49.3	-13.0	-36.3	
	Mid Channel (836.5MHz)									
	1.6730	-13.7	V	3.0	38.2	1.0	-50.9	-13.0	-37.9	
	2.5090	-2.1	V	3.0	38.8	1.0	-39.9	-13.0	-26.9	
	3.3460	-11.1	V	3.0	39.5	1.0	-49.5	-13.0	-36.5	
	4.1825	-9.4	V	3.0	39.8	1.0	-48.2	-13.0	-35.2	
	1.6730	-13.5	H	3.0	38.2	1.0	-50.8	-13.0	-37.8	
	2.5090	-4.8	H	3.0	38.8	1.0	-42.6	-13.0	-29.6	
	3.3460	-7.9	H	3.0	39.5	1.0	-46.3	-13.0	-33.3	
	4.1825	-9.3	H	3.0	39.8	1.0	-48.1	-13.0	-35.1	
	High Channel (846.5MHz)									
	1.6930	-13.9	V	3.0	38.2	1.0	-51.2	-13.0	-38.2	
	2.5390	-8.2	V	3.0	38.9	1.0	-46.0	-13.0	-33.0	
	3.3860	-10.2	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
	4.2325	-9.4	V	4.0	39.8	2.0	-44.7	-13.0	-31.7	
	1.6930	-12.7	H	3.0	38.2	1.0	-49.9	-13.0	-36.9	
	2.5390	-7.8	H	3.0	38.9	1.0	-45.7	-13.0	-32.7	
	3.3860	-7.1	H	3.0	39.5	1.0	-45.6	-13.0	-32.6	
	4.2325	-10.2	H	3.0	39.8	1.0	-49.0	-13.0	-36.0	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

UL Korea, Ltd Suwon Laboratory									
Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4788103295							
Date:		08-22-17							
Test Engineer:		Chan Park							
Configuration:		EUT / AC Adapter / Earphone, X Position							
Mode:		TX, LTE BAND 5, 5MHz BW, 16QAM							
Chamber		Pre-amplifier		Filter		Limit			
Chamber 2		AFS42		Filter 1		Part 22			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.5MHz)									
1.6530	-16.8	V	3.0	38.2	1.0	-54.0	-13.0	-41.0	
2.4790	-6.3	V	3.0	38.8	1.0	-44.1	-13.0	-31.1	
3.3060	-11.1	V	3.0	39.4	1.0	-49.6	-13.0	-36.6	
4.1325	-13.1	V	3.0	39.8	1.0	-51.9	-13.0	-38.9	
1.6530	-16.2	H	3.0	38.2	1.0	-53.4	-13.0	-40.4	
2.4790	-6.0	H	3.0	38.8	1.0	-43.8	-13.0	-30.8	
3.3060	-9.8	H	3.0	39.4	1.0	-48.3	-13.0	-35.3	
4.1325	-10.8	H	3.0	39.8	1.0	-49.6	-13.0	-36.6	
Mid Channel (836.5MHz)									
1.6730	-14.2	V	3.0	38.2	1.0	-51.5	-13.0	-38.5	
2.5090	-3.0	V	3.0	38.8	1.0	-40.9	-13.0	-27.9	
3.3460	-11.5	V	3.0	39.5	1.0	-50.0	-13.0	-37.0	
4.1825	-10.5	V	3.0	39.8	1.0	-49.3	-13.0	-36.3	
1.6730	-13.6	H	3.0	38.2	1.0	-50.8	-13.0	-37.8	
2.5090	-5.4	H	3.0	38.8	1.0	-43.3	-13.0	-30.3	
3.3460	-8.6	H	3.0	39.5	1.0	-47.1	-13.0	-34.1	
4.1825	-9.9	H	3.0	39.8	1.0	-48.7	-13.0	-35.7	
High Channel (846.5MHz)									
1.6930	-14.1	V	3.0	38.2	1.0	-51.4	-13.0	-38.4	
2.5390	-8.3	V	3.0	38.9	1.0	-46.1	-13.0	-33.1	
3.3860	-10.1	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
4.2325	-9.5	V	4.0	39.8	2.0	-44.8	-13.0	-31.8	
1.6930	-13.1	H	3.0	38.2	1.0	-50.4	-13.0	-37.4	
2.5390	-8.3	H	3.0	38.9	1.0	-46.2	-13.0	-33.2	
3.3860	-7.6	H	3.0	39.5	1.0	-46.1	-13.0	-33.1	
4.2325	-10.6	H	3.0	39.8	1.0	-49.4	-13.0	-36.4	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

UL Korea, Ltd Suwon Laboratory										
Above 1GHz High Frequency Substitution Measurement										
Company: Project #: Date: Test Engineer: Configuration: Mode:		Samsung 4788103295 08-21-17 YH Lim EUT / AC Adapter / Earphone, X Position TX, LTE BAND 5, 3MHz BW, QPSK								
Chamber		Pre-amplifier		Filter		Limit				
Chamber 2		AFS42		Filter 1		Part 22				
LTE Band 5 3MHz QPSK	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (825.5MHz)									
	1.6510	-16.8	V	3.0	38.2	1.0	-54.1	-13.0	-41.1	
	2.4765	-5.7	V	3.0	38.8	1.0	-43.5	-13.0	-30.5	
	3.3020	-10.3	V	3.0	39.4	1.0	-48.8	-13.0	-35.8	
	4.1275	-11.4	V	3.0	39.8	1.0	-50.2	-13.0	-37.2	
	1.6510	-16.3	H	3.0	38.2	1.0	-53.5	-13.0	-40.5	
	2.4765	-5.7	H	3.0	38.8	1.0	-43.5	-13.0	-30.5	
	3.3020	-9.3	H	3.0	39.4	1.0	-47.7	-13.0	-34.7	
	4.1275	-10.2	H	3.0	39.8	1.0	-49.0	-13.0	-36.0	
	Mid Channel (836.5MHz)									
	1.6730	-14.0	V	3.0	38.2	1.0	-51.3	-13.0	-38.3	
	2.5090	-1.6	V	3.0	38.8	1.0	-39.5	-13.0	-26.5	
	3.3460	-10.8	V	3.0	39.5	1.0	-49.2	-13.0	-36.2	
	4.1825	-9.8	V	3.0	39.8	1.0	-48.6	-13.0	-35.6	
	1.6730	-13.8	H	3.0	38.2	1.0	-51.0	-13.0	-38.0	
	2.5090	-4.2	H	3.0	38.8	1.0	-42.1	-13.0	-29.1	
	3.3460	-8.7	H	3.0	39.5	1.0	-47.1	-13.0	-34.1	
	4.1825	-9.4	H	3.0	39.8	1.0	-48.2	-13.0	-35.2	
	High Channel (847.5MHz)									
	1.6950	-13.8	V	3.0	38.2	1.0	-51.0	-13.0	-38.0	
	2.5425	-8.6	V	3.0	38.9	1.0	-46.5	-13.0	-33.5	
	3.3900	-10.0	V	3.0	39.5	1.0	-48.5	-13.0	-35.5	
	4.2375	-9.1	V	4.0	39.8	2.0	-44.4	-13.0	-31.4	
	1.6950	-12.8	H	3.0	38.2	1.0	-50.0	-13.0	-37.0	
	2.5425	-7.9	H	3.0	38.9	1.0	-45.8	-13.0	-32.8	
	3.3900	-6.9	H	3.0	39.5	1.0	-45.4	-13.0	-32.4	
	4.2375	-10.3	H	3.0	39.8	1.0	-49.2	-13.0	-36.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4788103295 Date: 08-21-17 Test Engineer: YH Lim Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 3MHz BW, 16QAM										
Chamber Chamber 2		Pre-amplifier AFS42		Filter Filter 1		Limit Part 22				
LTE Band 5 3MHz 16QAM	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (825.5MHz)									
	1.6510	-16.8	V	3.0	38.2	1.0	-54.0	-13.0	-41.0	
	2.4765	-5.2	V	3.0	38.8	1.0	-43.0	-13.0	-30.0	
	3.3020	-10.6	V	3.0	39.4	1.0	-49.0	-13.0	-36.0	
	4.1275	-12.1	V	3.0	39.8	1.0	-50.9	-13.0	-37.9	
	1.6510	-16.5	H	3.0	38.2	1.0	-53.7	-13.0	-40.7	
	2.4765	-6.7	H	3.0	38.8	1.0	-44.5	-13.0	-31.5	
	3.3020	-8.6	H	3.0	39.4	1.0	-47.0	-13.0	-34.0	
	4.1275	-10.3	H	3.0	39.8	1.0	-49.1	-13.0	-36.1	
	Mid Channel (836.5MHz)									
	1.6730	-14.5	V	3.0	38.2	1.0	-51.8	-13.0	-38.8	
	2.5090	-1.9	V	3.0	38.8	1.0	-39.7	-13.0	-26.7	
	3.3460	-11.9	V	3.0	39.5	1.0	-50.3	-13.0	-37.3	
	4.1825	-9.8	V	3.0	39.8	1.0	-48.6	-13.0	-35.6	
	1.6730	-14.0	H	3.0	38.2	1.0	-51.2	-13.0	-38.2	
	2.5090	-3.5	H	3.0	38.8	1.0	-41.4	-13.0	-28.4	
	3.3460	-8.9	H	3.0	39.5	1.0	-47.3	-13.0	-34.3	
	4.1825	-9.6	H	3.0	39.8	1.0	-48.4	-13.0	-35.4	
	High Channel (847.5MHz)									
	1.6950	-13.7	V	3.0	38.2	1.0	-51.0	-13.0	-38.0	
	2.5425	-10.7	V	3.0	38.9	1.0	-48.5	-13.0	-35.5	
	3.3900	-10.5	V	3.0	39.5	1.0	-49.0	-13.0	-36.0	
	4.2375	-9.8	V	4.0	39.8	2.0	-45.2	-13.0	-32.2	
	1.6950	-12.7	H	3.0	38.2	1.0	-50.0	-13.0	-37.0	
	2.5425	-8.3	H	3.0	38.9	1.0	-46.2	-13.0	-33.2	
	3.3900	-7.5	H	3.0	39.5	1.0	-46.0	-13.0	-33.0	
	4.2375	-10.5	H	3.0	39.8	1.0	-49.3	-13.0	-36.3	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
Company: Samsung Project #: 4788103295 Date: 08-21-17 Test Engineer: YH Lim Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 1.4MHz BW, QPSK										
Chamber Chamber 2		Pre-amplifier AFS42		Filter Filter 1		Limit Part 22				
LTE Band 5 1.4MHz QPSK	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (824.7MHz)									
	1.6494	-15.7	V	3.0	38.2	1.0	-52.9	-13.0	-39.9	
	2.4741	-4.7	V	3.0	38.8	1.0	-42.5	-13.0	-29.5	
	3.2988	-9.4	V	3.0	39.4	1.0	-47.8	-13.0	-34.8	
	4.1235	-11.7	V	3.0	39.8	1.0	-50.6	-13.0	-37.6	
	1.6494	-14.9	H	3.0	38.2	1.0	-52.2	-13.0	-39.2	
	2.4741	-5.9	H	3.0	38.8	1.0	-43.7	-13.0	-30.7	
	3.2988	-8.9	H	3.0	39.4	1.0	-47.3	-13.0	-34.3	
	4.1235	-10.4	H	3.0	39.8	1.0	-49.2	-13.0	-36.2	
	Mid Channel (836.5MHz)									
	1.6730	-14.1	V	3.0	38.2	1.0	-51.4	-13.0	-38.4	
	2.5090	-0.9	V	3.0	38.8	1.0	-38.8	-13.0	-25.8	
	3.3460	-11.2	V	3.0	39.5	1.0	-49.7	-13.0	-36.7	
	4.1825	-9.4	V	3.0	39.8	1.0	-48.2	-13.0	-35.2	
	1.6730	-12.1	H	3.0	38.2	1.0	-49.4	-13.0	-36.4	
	2.5090	-4.3	H	3.0	38.8	1.0	-42.1	-13.0	-29.1	
	3.3460	-8.4	H	3.0	39.5	1.0	-46.8	-13.0	-33.8	
	4.1825	-8.1	H	3.0	39.8	1.0	-46.9	-13.0	-33.9	
	High Channel (848.3MHz)									
	1.6966	-15.2	V	3.0	38.2	1.0	-52.4	-13.0	-39.4	
	2.5449	-8.4	V	3.0	38.9	1.0	-46.3	-13.0	-33.3	
	3.3932	-10.2	V	3.0	39.5	1.0	-48.7	-13.0	-35.7	
	4.2415	-9.4	V	4.0	39.8	2.0	-44.7	-13.0	-31.7	
	1.6966	-13.7	H	3.0	38.2	1.0	-50.9	-13.0	-37.9	
	2.5449	-8.4	H	3.0	38.9	1.0	-46.3	-13.0	-33.3	
	3.3932	-7.2	H	3.0	39.5	1.0	-45.7	-13.0	-32.7	
	4.2415	-10.1	H	3.0	39.8	1.0	-48.9	-13.0	-35.9	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

UL Korea, Ltd Suwon Laboratory											
Above 1GHz High Frequency Substitution Measurement											
Company: Project #: Date: Test Engineer: Configuration: Mode:		Samsung 4788103295 08-21-17 YH Lim EUT / AC Adapter / Earphone, X Position TX, LTE BAND 5, 1.4MHz BW, 16QAM									
		Chamber	Pre-amplifier	Filter	Limit						
		Chamber 2	AFS42	Filter 1	Part 22						
		f GHz	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 Channel (824.7MHz)									
		1.6494	-16.0	V	3.0	38.2	1.0	-53.2	-13.0	-40.2	
		2.4741	-5.4	V	3.0	38.8	1.0	-43.2	-13.0	-30.2	
		3.2988	-9.3	V	3.0	39.4	1.0	-47.8	-13.0	-34.8	
		4.1235	-11.9	V	3.0	39.8	1.0	-50.7	-13.0	-37.7	
		1.6494	-16.0	H	3.0	38.2	1.0	-53.3	-13.0	-40.3	
		2.4741	-6.1	H	3.0	38.8	1.0	-43.9	-13.0	-30.9	
		3.2988	-9.8	H	3.0	39.4	1.0	-48.3	-13.0	-35.3	
		4.1235	-10.4	H	3.0	39.8	1.0	-49.2	-13.0	-36.2	
		Mid Channel (836.5MHz)									
		1.6730	-13.8	V	3.0	38.2	1.0	-51.0	-13.0	-38.0	
		2.5090	-1.1	V	3.0	38.8	1.0	-38.9	-13.0	-25.9	
		3.3460	-11.7	V	3.0	39.5	1.0	-50.1	-13.0	-37.1	
		4.1825	-9.4	V	3.0	39.8	1.0	-48.2	-13.0	-35.2	
		1.6730	-12.5	H	3.0	38.2	1.0	-49.8	-13.0	-36.8	
		2.5090	-4.1	H	3.0	38.8	1.0	-41.9	-13.0	-28.9	
		3.3460	-8.7	H	3.0	39.5	1.0	-47.2	-13.0	-34.2	
		4.1825	-8.2	H	3.0	39.8	1.0	-47.0	-13.0	-34.0	
		High Channel (848.3MHz)									
		1.6966	-14.9	V	3.0	38.2	1.0	-52.2	-13.0	-39.2	
		2.5449	-9.5	V	3.0	38.9	1.0	-47.4	-13.0	-34.4	
		3.3932	-10.7	V	3.0	39.5	1.0	-49.2	-13.0	-36.2	
		4.2415	-10.7	V	4.0	39.8	2.0	-46.0	-13.0	-33.0	
		1.6966	-12.9	H	3.0	38.2	1.0	-50.1	-13.0	-37.1	
		2.5449	-9.2	H	3.0	38.9	1.0	-47.1	-13.0	-34.1	
		3.3932	-6.8	H	3.0	39.5	1.0	-45.3	-13.0	-32.3	
		4.2415	-10.8	H	3.0	39.8	1.0	-49.6	-13.0	-36.6	
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 4

LTE Band 4 20MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 20MHz BW, QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1720MHz)									
	3.4400	-1.7	V	3.0	39.5	1.0	-40.2	-13.0	-27.2	
	5.1600	1.3	V	3.0	39.8	1.0	-37.5	-13.0	-24.5	
	6.8800	-0.6	V	3.0	39.7	1.0	-39.3	-13.0	-26.3	
	3.4400	-1.8	H	3.0	39.5	1.0	-40.3	-13.0	-27.3	
	5.1600	-2.9	H	3.0	39.8	1.0	-41.7	-13.0	-28.7	
	6.8800	-5.2	H	3.0	39.7	1.0	-43.9	-13.0	-30.9	
	Mid Channel (1732.5MHz)									
	3.4650	-0.9	V	3.0	39.5	1.0	-39.4	-13.0	-26.4	
	5.1975	1.8	V	3.0	39.8	1.0	-37.0	-13.0	-24.0	
	6.9300	0.5	V	3.0	39.7	1.0	-38.1	-13.0	-25.1	
	3.4650	1.7	H	3.0	39.5	1.0	-36.8	-13.0	-23.8	
	5.1975	-2.2	H	3.0	39.8	1.0	-41.0	-13.0	-28.0	
	6.9300	-6.3	H	3.0	39.7	1.0	-45.0	-13.0	-32.0	
	High Channel (1745MHz)									
	3.4900	-1.1	V	3.0	39.5	1.0	-39.7	-13.0	-26.7	
	5.2350	-2.0	V	3.0	39.8	1.0	-40.9	-13.0	-27.9	
	6.9800	-2.3	V	3.0	39.6	1.0	-40.9	-13.0	-27.9	
	3.4900	2.1	H	3.0	39.5	1.0	-36.4	-13.0	-23.4	
	5.2350	-4.6	H	3.0	39.8	1.0	-43.4	-13.0	-30.4	
	6.9800	-6.2	H	3.0	39.6	1.0	-44.8	-13.0	-31.8	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 4 20MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 20MHz BW, 16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1720MHz)									
	3.4400	-1.8	V	3.0	39.5	1.0	-40.3	-13.0	-27.3	
	5.1600	1.3	V	3.0	39.8	1.0	-37.5	-13.0	-24.5	
	6.8800	-0.5	V	3.0	39.7	1.0	-39.2	-13.0	-26.2	
	3.4400	-1.7	H	3.0	39.5	1.0	-40.2	-13.0	-27.2	
	5.1600	-3.0	H	3.0	39.8	1.0	-41.8	-13.0	-28.8	
	6.8800	-5.1	H	3.0	39.7	1.0	-43.8	-13.0	-30.8	
	Mid Channel (1732.5MHz)									
	3.4650	-1.0	V	3.0	39.5	1.0	-39.5	-13.0	-26.5	
	5.1975	1.9	V	3.0	39.8	1.0	-36.9	-13.0	-23.9	
	6.9300	0.4	V	3.0	39.7	1.0	-38.3	-13.0	-25.3	
	3.4650	2.1	H	3.0	39.5	1.0	-36.5	-13.0	-23.5	
	5.1975	-2.4	H	3.0	39.8	1.0	-41.2	-13.0	-28.2	
	6.9300	-6.5	H	3.0	39.7	1.0	-45.2	-13.0	-32.2	
	High Channel (1745MHz)									
	3.4900	-1.2	V	3.0	39.5	1.0	-39.8	-13.0	-26.8	
	5.2350	-2.3	V	3.0	39.8	1.0	-41.2	-13.0	-28.2	
	6.9800	-2.5	V	3.0	39.6	1.0	-41.2	-13.0	-28.2	
	3.4900	2.3	H	3.0	39.5	1.0	-36.3	-13.0	-23.3	
	5.2350	-4.8	H	3.0	39.8	1.0	-43.6	-13.0	-30.6	
	6.9800	-6.3	H	3.0	39.6	1.0	-44.9	-13.0	-31.9	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 4 15MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 15MHz BW, QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1717.5MHz)									
	3.4350	-2.9	V	3.0	39.5	1.0	-41.4	-13.0	-28.4	
	5.1525	-1.4	V	3.0	39.8	1.0	-40.2	-13.0	-27.2	
	6.8700	0.0	V	3.0	39.7	1.0	-38.6	-13.0	-25.6	
	3.4350	1.9	H	3.0	39.5	1.0	-36.6	-13.0	-23.6	
	5.1525	-3.1	H	3.0	39.8	1.0	-41.9	-13.0	-28.9	
	6.8700	-6.7	H	3.0	39.7	1.0	-45.3	-13.0	-32.3	
	Mid Channel (1732.5MHz)									
	3.4650	-1.7	V	3.0	39.5	1.0	-40.2	-13.0	-27.2	
	5.1975	1.5	V	3.0	39.8	1.0	-37.3	-13.0	-24.3	
	6.9300	0.5	V	3.0	39.7	1.0	-38.1	-13.0	-25.1	
	3.4650	1.7	H	3.0	39.5	1.0	-36.8	-13.0	-23.8	
	5.1975	-3.0	H	3.0	39.8	1.0	-41.8	-13.0	-28.8	
	6.9300	-6.0	H	3.0	39.7	1.0	-44.6	-13.0	-31.6	
	High Channel (1747.5MHz)									
	3.4950	-1.6	V	3.0	39.5	1.0	-40.2	-13.0	-27.2	
	5.2425	0.2	V	3.0	39.8	1.0	-38.6	-13.0	-25.6	
	6.9900	-0.6	V	3.0	39.6	1.0	-39.2	-13.0	-26.2	
	3.4950	1.1	H	3.0	39.5	1.0	-37.4	-13.0	-24.4	
	5.2425	-4.1	H	3.0	39.8	1.0	-43.0	-13.0	-30.0	
	6.9900	-6.1	H	3.0	39.6	1.0	-44.7	-13.0	-31.7	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 4 15MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 15MHz BW, 16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1717.5MHz)									
	3.4350	-2.5	V	3.0	39.5	1.0	-41.0	-13.0	-28.0	
	5.1525	-1.6	V	3.0	39.8	1.0	-40.4	-13.0	-27.4	
	6.8700	0.0	V	3.0	39.7	1.0	-38.7	-13.0	-25.7	
	3.4350	1.8	H	3.0	39.5	1.0	-36.7	-13.0	-23.7	
	5.1525	-3.0	H	3.0	39.8	1.0	-41.8	-13.0	-28.8	
	6.8700	-6.9	H	3.0	39.7	1.0	-45.6	-13.0	-32.6	
	Mid Channel (1732.5MHz)									
	3.4650	-1.8	V	3.0	39.5	1.0	-40.3	-13.0	-27.3	
	5.1975	1.4	V	3.0	39.8	1.0	-37.4	-13.0	-24.4	
	6.9300	0.5	V	3.0	39.7	1.0	-38.2	-13.0	-25.2	
	3.4650	1.5	H	3.0	39.5	1.0	-37.0	-13.0	-24.0	
	5.1975	-2.9	H	3.0	39.8	1.0	-41.8	-13.0	-28.8	
	6.9300	-6.1	H	3.0	39.7	1.0	-44.7	-13.0	-31.7	
	High Channel (1747.5MHz)									
	3.4950	-1.6	V	3.0	39.5	1.0	-40.2	-13.0	-27.2	
	5.2425	0.2	V	3.0	39.8	1.0	-38.6	-13.0	-25.6	
	6.9900	-0.5	V	3.0	39.6	1.0	-39.1	-13.0	-26.1	
	3.4950	1.0	H	3.0	39.5	1.0	-37.5	-13.0	-24.5	
	5.2425	-4.1	H	3.0	39.8	1.0	-42.9	-13.0	-29.9	
	6.9900	-6.3	H	3.0	39.6	1.0	-44.9	-13.0	-31.9	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE

Band 4

10MHz

QPSK

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788103295

Date: 09-01-17

Test Engineer: Chan Park

Configuration: EUT / AC Adapter / Ear Phone / Z-Position

Mode: TX, LTE BAND 4, 10MHz BW, QPSK

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

FCC Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1715MHz)									
3.4300	-1.4	V	3.0	39.5	1.0	-39.9	-13.0	-26.9	
5.1450	0.6	V	3.0	39.8	1.0	-38.2	-13.0	-25.2	
6.8600	0.9	V	3.0	39.7	1.0	-37.8	-13.0	-24.8	
3.4300	2.1	H	3.0	39.5	1.0	-36.4	-13.0	-23.4	
5.1450	-4.2	H	3.0	39.8	1.0	-43.0	-13.0	-30.0	
6.8600	-6.5	H	3.0	39.7	1.0	-45.2	-13.0	-32.2	
Mid Channel (1732.5MHz)									
3.4650	-1.2	V	3.0	39.5	1.0	-39.7	-13.0	-26.7	
5.1975	0.9	V	3.0	39.8	1.0	-37.9	-13.0	-24.9	
6.9300	0.8	V	3.0	39.7	1.0	-37.9	-13.0	-24.9	
3.4650	1.9	H	3.0	39.5	1.0	-36.6	-13.0	-23.6	
5.1975	-2.9	H	3.0	39.8	1.0	-41.7	-13.0	-28.7	
6.9300	-7.4	H	3.0	39.7	1.0	-46.1	-13.0	-33.1	
High Channel (1750MHz)									
3.5000	-0.8	V	3.0	39.5	1.0	-39.3	-13.0	-26.3	
5.2500	0.6	V	3.0	39.8	1.0	-38.3	-13.0	-25.3	
7.0000	1.7	V	3.0	39.6	1.0	-36.9	-13.0	-23.9	
3.5000	1.6	H	3.0	39.5	1.0	-36.9	-13.0	-23.9	
5.2500	-3.9	H	3.0	39.8	1.0	-42.8	-13.0	-29.8	
7.0000	1.1	H	3.0	39.6	1.0	-37.5	-13.0	-24.5	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE

Band 4

10MHz

16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788103295

Date: 09-01-17

Test Engineer: Chan Park

Configuration: EUT / AC Adapter / Ear Phone / Z-Position

Mode: TX, LTE BAND 4, 10MHz BW, 16QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

FCC Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1715MHz)									
3.4300	-1.6	V	3.0	39.5	1.0	-40.1	-13.0	-27.1	
5.1450	0.6	V	3.0	39.8	1.0	-38.2	-13.0	-25.2	
6.8600	1.1	V	3.0	39.7	1.0	-37.6	-13.0	-24.6	
3.4300	2.0	H	3.0	39.5	1.0	-36.5	-13.0	-23.5	
5.1450	-4.2	H	3.0	39.8	1.0	-43.0	-13.0	-30.0	
6.8600	-6.7	H	3.0	39.7	1.0	-45.4	-13.0	-32.4	
Mid Channel (1732.5MHz)									
3.4650	-1.2	V	3.0	39.5	1.0	-39.7	-13.0	-26.7	
5.1975	0.6	V	3.0	39.8	1.0	-38.3	-13.0	-25.3	
6.9300	0.8	V	3.0	39.7	1.0	-37.9	-13.0	-24.9	
3.4650	1.8	H	3.0	39.5	1.0	-36.7	-13.0	-23.7	
5.1975	-2.4	H	3.0	39.8	1.0	-41.3	-13.0	-28.3	
6.9300	-7.3	H	3.0	39.7	1.0	-46.0	-13.0	-33.0	
High Channel (1750MHz)									
3.5000	-0.6	V	3.0	39.5	1.0	-39.1	-13.0	-26.1	
5.2500	0.5	V	3.0	39.8	1.0	-38.4	-13.0	-25.4	
7.0000	2.0	V	3.0	39.6	1.0	-36.6	-13.0	-23.6	
3.5000	1.4	H	3.0	39.5	1.0	-37.1	-13.0	-24.1	
5.2500	-3.9	H	3.0	39.8	1.0	-42.7	-13.0	-29.7	
7.0000	1.0	H	3.0	39.6	1.0	-37.7	-13.0	-24.7	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 4 5MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 5MHz BW, QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1712.5MHz)									
	3.4250	-1.4	V	3.0	39.5	1.0	-39.9	-13.0	-26.9	
	5.1375	1.2	V	3.0	39.8	1.0	-37.6	-13.0	-24.6	
	6.8500	-0.3	V	3.0	39.7	1.0	-38.9	-13.0	-25.9	
	3.4250	1.6	H	3.0	39.5	1.0	-36.9	-13.0	-23.9	
	5.1375	-3.1	H	3.0	39.8	1.0	-41.9	-13.0	-28.9	
	6.8500	-6.9	H	3.0	39.7	1.0	-45.6	-13.0	-32.6	
	Mid Channel (1732.5MHz)									
	3.4650	-1.9	V	3.0	39.5	1.0	-40.4	-13.0	-27.4	
	5.1975	1.2	V	3.0	39.8	1.0	-37.7	-13.0	-24.7	
	6.9300	0.9	V	3.0	39.7	1.0	-37.7	-13.0	-24.7	
	3.4650	2.7	H	3.0	39.5	1.0	-35.8	-13.0	-22.8	
	5.1975	-2.1	H	3.0	39.8	1.0	-40.9	-13.0	-27.9	
	6.9300	-6.4	H	3.0	39.7	1.0	-45.0	-13.0	-32.0	
	High Channel (1752.5MHz)									
	3.5050	-5.2	V	3.0	39.5	1.0	-43.7	-13.0	-30.7	
	5.2575	-1.0	V	3.0	39.8	1.0	-39.8	-13.0	-26.8	
	7.0100	-1.4	V	3.0	39.6	1.0	-40.0	-13.0	-27.0	
	3.5050	-3.6	H	3.0	39.5	1.0	-42.1	-13.0	-29.1	
	5.2575	-3.6	H	3.0	39.8	1.0	-42.4	-13.0	-29.4	
	7.0100	-6.9	H	3.0	39.6	1.0	-45.5	-13.0	-32.5	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 4 5MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-01-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 7, 5MHz BW, 16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1712.5MHz)									
	3.4250	-1.6	V	3.0	39.5	1.0	-40.1	-13.0	-27.1	
	5.1375	1.0	V	3.0	39.8	1.0	-37.8	-13.0	-24.8	
	6.8500	-0.3	V	3.0	39.7	1.0	-39.0	-13.0	-26.0	
	3.4250	1.5	H	3.0	39.5	1.0	-37.0	-13.0	-24.0	
	5.1375	-3.0	H	3.0	39.8	1.0	-41.8	-13.0	-28.8	
	6.8500	-7.3	H	3.0	39.7	1.0	-46.0	-13.0	-33.0	
	Mid Channel (1732.5MHz)									
	3.4650	-2.1	V	3.0	39.5	1.0	-40.6	-13.0	-27.6	
	5.1975	1.0	V	3.0	39.8	1.0	-37.8	-13.0	-24.8	
	6.9300	-0.9	V	3.0	39.7	1.0	-39.5	-13.0	-26.5	
	3.4650	2.7	H	3.0	39.5	1.0	-35.9	-13.0	-22.9	
	5.1975	-2.7	H	3.0	39.8	1.0	-41.5	-13.0	-28.5	
	6.9300	-6.1	H	3.0	39.7	1.0	-44.8	-13.0	-31.8	
	High Channel (1752.5MHz)									
	3.5050	-5.3	V	3.0	39.5	1.0	-43.8	-13.0	-30.8	
	5.2575	-1.1	V	3.0	39.8	1.0	-40.0	-13.0	-27.0	
	7.0100	-1.3	V	3.0	39.6	1.0	-39.9	-13.0	-26.9	
	3.5050	-3.6	H	3.0	39.5	1.0	-42.2	-13.0	-29.2	
	5.2575	-3.8	H	3.0	39.8	1.0	-42.7	-13.0	-29.7	
	7.0100	-7.1	H	3.0	39.6	1.0	-45.7	-13.0	-32.7	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 4 3MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-29-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 3MHz BW,QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1711.5MHz)									
	3.4230	-0.1	V	3.0	39.5	1.0	-38.5	-13.0	-25.5	
	5.1345	-9.4	V	3.0	39.8	1.0	-48.2	-13.0	-35.2	
	6.8460	-7.5	V	3.0	39.7	1.0	-46.2	-13.0	-33.2	
	3.4230	-4.1	H	3.0	39.5	1.0	-42.6	-13.0	-29.6	
	5.1345	-12.3	H	3.0	39.8	1.0	-51.2	-13.0	-38.2	
	6.8460	-10.2	H	3.0	39.7	1.0	-48.9	-13.0	-35.9	
	Mid Channel (1732.5MHz)									
	3.4650	-4.3	V	3.0	39.5	1.0	-42.8	-13.0	-29.8	
	5.1975	-6.1	V	3.0	39.8	1.0	-44.9	-13.0	-31.9	
	6.9300	-7.6	V	3.0	39.7	1.0	-46.3	-13.0	-33.3	
	3.4650	-0.3	H	3.0	39.5	1.0	-38.9	-13.0	-25.9	
	5.1975	-6.2	H	3.0	39.8	1.0	-45.0	-13.0	-32.0	
	6.9300	-10.5	H	3.0	39.7	1.0	-49.1	-13.0	-36.1	
	High Channel (1753.5MHz)									
	3.5070	-2.7	V	3.0	39.5	1.0	-41.3	-13.0	-28.3	
	5.2605	-7.7	V	3.0	39.8	1.0	-46.5	-13.0	-33.5	
	7.0140	-11.3	V	3.0	39.6	1.0	-50.0	-13.0	-37.0	
	3.5070	-2.1	H	3.0	39.5	1.0	-40.7	-13.0	-27.7	
	5.2605	-9.1	H	3.0	39.8	1.0	-48.0	-13.0	-35.0	
	7.0140	-11.5	H	3.0	39.6	1.0	-50.1	-13.0	-37.1	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 4 3MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-29-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 4, 3MHz BW,16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 27									
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1711.5MHz)									
	3.4230	0.0	V	3.0	39.5	1.0	-38.5	-13.0	-25.5	
	5.1345	-9.2	V	3.0	39.8	1.0	-48.0	-13.0	-35.0	
	6.8460	-8.2	V	3.0	39.7	1.0	-46.9	-13.0	-33.9	
	3.4230	-4.1	H	3.0	39.5	1.0	-42.6	-13.0	-29.6	
	5.1345	-11.7	H	3.0	39.8	1.0	-50.6	-13.0	-37.6	
	6.8460	-10.8	H	3.0	39.7	1.0	-49.5	-13.0	-36.5	
	Mid Channel (1732.5MHz)									
	3.4650	-4.3	V	3.0	39.5	1.0	-42.8	-13.0	-29.8	
	5.1975	-5.0	V	3.0	39.8	1.0	-43.9	-13.0	-30.9	
	6.9300	-7.4	V	3.0	39.7	1.0	-46.1	-13.0	-33.1	
	3.4650	-0.5	H	3.0	39.5	1.0	-39.1	-13.0	-26.1	
	5.1975	-5.9	H	3.0	39.8	1.0	-44.7	-13.0	-31.7	
	6.9300	-10.9	H	3.0	39.7	1.0	-49.6	-13.0	-36.6	
	High Channel (1752.5MHz)									
	3.5050	-2.8	V	3.0	39.5	1.0	-41.3	-13.0	-28.3	
	5.2575	-7.3	V	3.0	39.8	1.0	-46.2	-13.0	-33.2	
	7.0100	-10.7	V	3.0	39.6	1.0	-49.3	-13.0	-36.3	
	3.5050	-2.3	H	3.0	39.5	1.0	-40.8	-13.0	-27.8	
	5.2575	-9.6	H	3.0	39.8	1.0	-48.4	-13.0	-35.4	
	7.0100	-10.9	H	3.0	39.6	1.0	-49.5	-13.0	-36.5	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

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<table><tr><th>f GHz</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>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (1710.7MHz)</td></tr><tr><td>3.4214</td><td>-1.6</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-40.1</td><td>-13.0</td><td>-27.1</td><td></td></tr><tr><td>5.1321</td><td>-9.5</td><td>V</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-48.3</td><td>-13.0</td><td>-35.3</td><td></td></tr><tr><td>6.8428</td><td>-8.6</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-47.3</td><td>-13.0</td><td>-34.3</td><td></td></tr><tr><td>3.4214</td><td>-0.4</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-38.9</td><td>-13.0</td><td>-25.9</td><td></td></tr><tr><td>5.1321</td><td>-11.3</td><td>H</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-50.1</td><td>-13.0</td><td>-37.1</td><td></td></tr><tr><td>6.8428</td><td>-10.6</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-49.3</td><td>-13.0</td><td>-36.3</td><td></td></tr><tr><td colspan="10">Mid Channel (1732.5MHz)</td></tr><tr><td>3.4650</td><td>-4.2</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-42.7</td><td>-13.0</td><td>-29.7</td><td></td></tr><tr><td>5.1975</td><td>-7.1</td><td>V</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-45.9</td><td>-13.0</td><td>-32.9</td><td></td></tr><tr><td>6.9300</td><td>-9.6</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-48.2</td><td>-13.0</td><td>-35.2</td><td></td></tr><tr><td>3.4650</td><td>-3.5</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-42.0</td><td>-13.0</td><td>-29.0</td><td></td></tr><tr><td>5.1975</td><td>-6.1</td><td>H</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-44.9</td><td>-13.0</td><td>-31.9</td><td></td></tr><tr><td>6.9300</td><td>-10.7</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-49.3</td><td>-13.0</td><td>-36.3</td><td></td></tr><tr><td colspan="10">High Channel (1754.3MHz)</td></tr><tr><td>3.5086</td><td>-5.5</td><td>V</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-44.1</td><td>-13.0</td><td>-31.1</td><td></td></tr><tr><td>5.2629</td><td>-8.7</td><td>V</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-47.5</td><td>-13.0</td><td>-34.5</td><td></td></tr><tr><td>7.0172</td><td>-9.2</td><td>V</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-47.8</td><td>-13.0</td><td>-34.8</td><td></td></tr><tr><td>3.5086</td><td>-1.3</td><td>H</td><td>3.0</td><td>39.5</td><td>1.0</td><td>-39.8</td><td>-13.0</td><td>-26.8</td><td></td></tr><tr><td>5.2629</td><td>-9.1</td><td>H</td><td>3.0</td><td>39.8</td><td>1.0</td><td>-48.0</td><td>-13.0</td><td>-35.0</td><td></td></tr><tr><td>7.0172</td><td>-11.7</td><td>H</td><td>3.0</td><td>39.6</td><td>1.0</td><td>-50.3</td><td>-13.0</td><td>-37.3</td><td></td></tr></table>										f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Channel (1710.7MHz)										3.4214	-1.6	V	3.0	39.5	1.0	-40.1	-13.0	-27.1		5.1321	-9.5	V	3.0	39.8	1.0	-48.3	-13.0	-35.3		6.8428	-8.6	V	3.0	39.7	1.0	-47.3	-13.0	-34.3		3.4214	-0.4	H	3.0	39.5	1.0	-38.9	-13.0	-25.9		5.1321	-11.3	H	3.0	39.8	1.0	-50.1	-13.0	-37.1		6.8428	-10.6	H	3.0	39.7	1.0	-49.3	-13.0	-36.3		Mid Channel (1732.5MHz)										3.4650	-4.2	V	3.0	39.5	1.0	-42.7	-13.0	-29.7		5.1975	-7.1	V	3.0	39.8	1.0	-45.9	-13.0	-32.9		6.9300	-9.6	V	3.0	39.7	1.0	-48.2	-13.0	-35.2		3.4650	-3.5	H	3.0	39.5	1.0	-42.0	-13.0	-29.0		5.1975	-6.1	H	3.0	39.8	1.0	-44.9	-13.0	-31.9		6.9300	-10.7	H	3.0	39.7	1.0	-49.3	-13.0	-36.3		High Channel (1754.3MHz)										3.5086	-5.5	V	3.0	39.5	1.0	-44.1	-13.0	-31.1		5.2629	-8.7	V	3.0	39.8	1.0	-47.5	-13.0	-34.5		7.0172	-9.2	V	3.0	39.6	1.0	-47.8	-13.0	-34.8		3.5086	-1.3	H	3.0	39.5	1.0	-39.8	-13.0	-26.8		5.2629	-9.1	H	3.0	39.8	1.0	-48.0	-13.0	-35.0		7.0172	-11.7	H	3.0	39.6	1.0	-50.3	-13.0	-37.3	
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Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.																																																																																																																																																																																																																																					

LTE Band 2

LTE Band 2 20MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-17-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 20MHz BW, QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 24									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1860MHz)									
	3.7200	-4.5	V	3.0	39.7	1.0	-43.2	-13.0	-30.2	
	5.5800	-3.7	V	3.0	39.9	1.0	-42.6	-13.0	-29.6	
	7.4400	-1.3	V	3.0	39.4	1.0	-39.7	-13.0	-26.7	
	3.7200	-6.4	H	3.0	39.7	1.0	-45.0	-13.0	-32.0	
	5.5800	-9.4	H	3.0	39.9	1.0	-48.3	-13.0	-35.3	
	7.4400	-3.8	H	3.0	39.4	1.0	-42.2	-13.0	-29.2	
	Mid Channel (1880MHz)									
	3.7600	-3.2	V	3.0	39.7	1.0	-41.9	-13.0	-28.9	
	5.6400	-6.0	V	3.0	40.0	1.0	-44.9	-13.0	-31.9	
	7.5200	1.4	V	3.0	39.4	1.0	-37.0	-13.0	-24.0	
	3.7600	-1.3	H	3.0	39.7	1.0	-40.0	-13.0	-27.0	
	5.6400	-8.3	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
	7.5200	-1.6	H	3.0	39.4	1.0	-40.0	-13.0	-27.0	
	High Channel (1900MHz)									
	3.8000	-0.5	V	3.0	39.7	1.0	-39.2	-13.0	-26.2	
	5.7000	-6.6	V	3.0	40.0	1.0	-45.6	-13.0	-32.6	
	7.6000	0.1	V	3.0	39.4	1.0	-38.2	-13.0	-25.2	
	3.8000	3.5	H	3.0	39.7	1.0	-35.2	-13.0	-22.2	
	5.7000	-12.2	H	3.0	40.0	1.0	-51.2	-13.0	-38.2	
	7.6000	-3.4	H	3.0	39.4	1.0	-41.8	-13.0	-28.8	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 2 20MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-17-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 20MHz BW, 16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 24									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1860MHz)									
	3.7200	-4.4	V	3.0	39.7	1.0	-43.1	-13.0	-30.1	
	5.5800	-4.7	V	3.0	39.9	1.0	-43.7	-13.0	-30.7	
	7.4400	-3.0	V	3.0	39.4	1.0	-41.5	-13.0	-28.5	
	3.7200	-6.6	H	3.0	39.7	1.0	-45.3	-13.0	-32.3	
	5.5800	-9.3	H	3.0	39.9	1.0	-48.3	-13.0	-35.3	
	7.4400	-4.2	H	3.0	39.4	1.0	-42.6	-13.0	-29.6	
	Mid Channel (1880MHz)									
	3.7600	-3.7	V	3.0	39.7	1.0	-42.4	-13.0	-29.4	
	5.6400	-5.1	V	3.0	40.0	1.0	-44.1	-13.0	-31.1	
	7.5200	0.3	V	3.0	39.4	1.0	-38.1	-13.0	-25.1	
	3.7600	-1.8	H	3.0	39.7	1.0	-40.5	-13.0	-27.5	
	5.6400	-9.6	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	
	7.5200	-2.4	H	3.0	39.4	1.0	-40.8	-13.0	-27.8	
	High Channel (1900MHz)									
	3.8000		V	3.0	39.7	1.0	-38.7	-13.0	-25.7	
	5.7000	-6.8	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
	7.6000	-0.7	V	3.0	39.4	1.0	-39.0	-13.0	-26.0	
	3.8000	3.3	H	3.0	39.7	1.0	-35.4	-13.0	-22.4	
	5.7000	-12.0	H	3.0	40.0	1.0	-51.0	-13.0	-38.0	
	7.6000	-3.2	H	3.0	39.4	1.0	-41.6	-13.0	-28.6	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 2 15MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-17-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 15MHz BW, QPSK									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 24									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1857.5MHz)									
	3.7150	-7.4	V	3.0	39.7	1.0	-46.1	-13.0	-33.1	
	5.5725	-2.6	V	3.0	39.9	1.0	-41.6	-13.0	-28.6	
	7.4300	1.5	V	3.0	39.4	1.0	-37.0	-13.0	-24.0	
	3.7150	-8.7	H	3.0	39.7	1.0	-47.3	-13.0	-34.3	
	5.5725	-8.5	H	3.0	39.9	1.0	-47.5	-13.0	-34.5	
	7.4300	-1.8	H	3.0	39.4	1.0	-40.3	-13.0	-27.3	
	Mid Channel (1880MHz)									
	3.7600	-2.9	V	3.0	39.7	1.0	-41.5	-13.0	-28.5	
	5.6400	-2.0	V	3.0	40.0	1.0	-41.0	-13.0	-28.0	
	7.5200	2.8	V	3.0	39.4	1.0	-35.5	-13.0	-22.5	
	3.7600	-1.7	H	3.0	39.7	1.0	-40.4	-13.0	-27.4	
	5.6400	-5.8	H	3.0	40.0	1.0	-44.7	-13.0	-31.7	
	7.5200	-0.4	H	3.0	39.4	1.0	-38.8	-13.0	-25.8	
	High Channel (1902.5MHz)									
	3.8050	0.1	V	3.0	39.7	1.0	-38.6	-13.0	-25.6	
	5.7075	-5.5	V	3.0	40.0	1.0	-44.4	-13.0	-31.4	
	7.6100	1.5	V	3.0	39.3	1.0	-36.9	-13.0	-23.9	
	3.8050	3.3	H	3.0	39.7	1.0	-35.4	-13.0	-22.4	
	5.7075	-8.1	H	3.0	40.0	1.0	-47.1	-13.0	-34.1	
	7.6100	-2.0	H	3.0	39.3	1.0	-40.4	-13.0	-27.4	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 2 15MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 08-17-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 15MHz BW, 16QAM									
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 FCC Part 24									
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Channel (1857.5MHz)									
	3.7150	-7.4	V	3.0	39.7	1.0	-46.0	-13.0	-33.0	
	5.5725	-2.1	V	3.0	39.9	1.0	-41.1	-13.0	-28.1	
	7.4300	1.5	V	3.0	39.4	1.0	-36.9	-13.0	-23.9	
	3.7150	-9.3	H	3.0	39.7	1.0	-47.9	-13.0	-34.9	
	5.5725	-8.1	H	3.0	39.9	1.0	-47.1	-13.0	-34.1	
	7.4300	-2.4	H	3.0	39.4	1.0	-40.8	-13.0	-27.8	
	Mid Channel (1880MHz)									
	3.7600	-3.2	V	3.0	39.7	1.0	-41.9	-13.0	-28.9	
	5.6400	-2.7	V	3.0	40.0	1.0	-41.7	-13.0	-28.7	
	7.5200	3.1	V	3.0	39.4	1.0	-35.3	-13.0	-22.3	
	3.7600	-1.9	H	3.0	39.7	1.0	-40.6	-13.0	-27.6	
	5.6400	-5.8	H	3.0	40.0	1.0	-44.7	-13.0	-31.7	
	7.5200	-0.8	H	3.0	39.4	1.0	-39.1	-13.0	-26.1	
	High Channel (1902.5MHz)									
	3.8050	-0.5	V	3.0	39.7	1.0	-39.3	-13.0	-26.3	
	5.7075	-5.1	V	3.0	40.0	1.0	-44.0	-13.0	-31.0	
	7.6100	1.6	V	3.0	39.3	1.0	-36.8	-13.0	-23.8	
	3.8050	3.4	H	3.0	39.7	1.0	-35.3	-13.0	-22.3	
	5.7075	-8.2	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
	7.6100	-1.7	H	3.0	39.3	1.0	-40.1	-13.0	-27.1	
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 2
10MHz
QPSK

UL Korea, Ltd Suwon Laboratory
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788103295
Date: 08-16-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 2, 10MHz BW,QPSK

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

FCC Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1855MHz)									
3.7100	-4.0	V	3.0	39.7	1.0	-42.7	-13.0	-29.7	
5.5650	-0.7	V	3.0	39.9	1.0	-39.6	-13.0	-26.6	
7.4200	2.5	V	3.0	39.4	1.0	-35.9	-13.0	-22.9	
3.7100	-12.5	H	3.0	39.7	1.0	-51.2	-13.0	-38.2	
5.5650	-8.0	H	3.0	39.9	1.0	-47.0	-13.0	-34.0	
7.4200	0.4	H	3.0	39.4	1.0	-38.0	-13.0	-25.0	
Mid Channel (1880MHz)									
3.7600	0.3	V	3.0	39.7	1.0	-38.3	-13.0	-25.3	
5.6400	-2.2	V	3.0	40.0	1.0	-41.2	-13.0	-28.2	
7.5200	3.7	V	3.0	39.4	1.0	-34.7	-13.0	-21.7	
3.7600	-2.8	H	3.0	39.7	1.0	-41.5	-13.0	-28.5	
5.6400	-7.5	H	3.0	40.0	1.0	-46.5	-13.0	-33.5	
7.5200	0.2	H	3.0	39.4	1.0	-38.2	-13.0	-25.2	
High Channel (1905MHz)									
3.8100	6.4	V	3.0	39.7	1.0	-32.3	-13.0	-19.3	
5.7150	-1.7	V	3.0	40.0	1.0	-40.7	-13.0	-27.7	
7.6200	4.4	V	3.0	39.3	1.0	-33.9	-13.0	-20.9	
3.8100	4.3	H	3.0	39.7	1.0	-34.4	-13.0	-21.4	
5.7150	-7.0	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7.6200	0.4	H	3.0	39.3	1.0	-37.9	-13.0	-24.9	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 2
10MHz
16QAM

UL Korea, Ltd Suwon Laboratory
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788103295
Date: 08-16-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 2, 10MHz BW,16QAM

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

FCC Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1855MHz)									
3.7100	-4.9	V	3.0	39.7	1.0	-43.5	-13.0	-30.5	
5.5650	-1.5	V	3.0	39.9	1.0	-40.5	-13.0	-27.5	
7.4200	1.9	V	3.0	39.4	1.0	-36.5	-13.0	-23.5	
3.7100	-12.1	H	3.0	39.7	1.0	-50.8	-13.0	-37.8	
5.5650	-7.9	H	3.0	39.9	1.0	-46.9	-13.0	-33.9	
7.4200	-0.2	H	3.0	39.4	1.0	-38.6	-13.0	-25.6	
Mid Channel (1880MHz)									
3.7600	-0.1	V	3.0	39.7	1.0	-38.8	-13.0	-25.8	
5.6400	-2.4	V	3.0	40.0	1.0	-41.3	-13.0	-28.3	
7.5200	3.8	V	3.0	39.4	1.0	-34.6	-13.0	-21.6	
3.7600	-1.9	H	3.0	39.7	1.0	-40.6	-13.0	-27.6	
5.6400	-7.9	H	3.0	40.0	1.0	-46.9	-13.0	-33.9	
7.5200	0.2	H	3.0	39.4	1.0	-38.2	-13.0	-25.2	
High Channel (1905MHz)									
3.8100	6.7	V	3.0	39.7	1.0	-32.0	-13.0	-19.0	
5.7150	-1.7	V	3.0	40.0	1.0	-40.7	-13.0	-27.7	
7.6200	3.6	V	3.0	39.3	1.0	-34.7	-13.0	-21.7	
3.8100	3.9	H	3.0	39.7	1.0	-34.8	-13.0	-21.8	
5.7150	-7.7	H	3.0	40.0	1.0	-46.7	-13.0	-33.7	
7.6200	0.3	H	3.0	39.3	1.0	-38.0	-13.0	-25.0	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE Band 2 5MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement																																																																																																																																																																																																																																				
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<table><tr><th>f GHz</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>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (1852.5MHz)</td></tr><tr><td>3.7050</td><td>-7.3</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-45.9</td><td>-13.0</td><td>-32.9</td><td></td></tr><tr><td>5.5575</td><td>-1.7</td><td>V</td><td>3.0</td><td>39.9</td><td>1.0</td><td>-40.6</td><td>-13.0</td><td>-27.6</td><td></td></tr><tr><td>7.4100</td><td>4.2</td><td>V</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-34.3</td><td>-13.0</td><td>-21.3</td><td></td></tr><tr><td>3.7050</td><td>-8.9</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-47.6</td><td>-13.0</td><td>-34.6</td><td></td></tr><tr><td>5.5575</td><td>-6.7</td><td>H</td><td>3.0</td><td>39.9</td><td>1.0</td><td>-45.6</td><td>-13.0</td><td>-32.6</td><td></td></tr><tr><td>7.4100</td><td>-0.4</td><td>H</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-38.8</td><td>-13.0</td><td>-25.8</td><td></td></tr><tr><td colspan="10">Mid Channel (1890MHz)</td></tr><tr><td>3.7600</td><td>0.3</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-38.4</td><td>-13.0</td><td>-25.4</td><td></td></tr><tr><td>5.6400</td><td>-1.9</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-40.9</td><td>-13.0</td><td>-27.9</td><td></td></tr><tr><td>7.5200</td><td>0.3</td><td>V</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-38.1</td><td>-13.0</td><td>-25.1</td><td></td></tr><tr><td>3.7600</td><td>-2.6</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-41.3</td><td>-13.0</td><td>-28.3</td><td></td></tr><tr><td>5.6400</td><td>-7.6</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-46.5</td><td>-13.0</td><td>-33.5</td><td></td></tr><tr><td>7.5200</td><td>-0.4</td><td>H</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-38.8</td><td>-13.0</td><td>-25.8</td><td></td></tr><tr><td colspan="10">High Channel (1907.5MHz)</td></tr><tr><td>3.8150</td><td>-1.2</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-39.9</td><td>-13.0</td><td>-26.9</td><td></td></tr><tr><td>5.7225</td><td>-3.0</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-42.0</td><td>-13.0</td><td>-29.0</td><td></td></tr><tr><td>7.6300</td><td>4.3</td><td>V</td><td>3.0</td><td>39.3</td><td>1.0</td><td>-34.0</td><td>-13.0</td><td>-21.0</td><td></td></tr><tr><td>3.8150</td><td>-2.7</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-41.4</td><td>-13.0</td><td>-28.4</td><td></td></tr><tr><td>5.7225</td><td>-8.2</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-47.2</td><td>-13.0</td><td>-34.2</td><td></td></tr><tr><td>7.6300</td><td>0.3</td><td>H</td><td>3.0</td><td>39.3</td><td>1.0</td><td>-38.1</td><td>-13.0</td><td>-25.1</td><td></td></tr></table>										f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Channel (1852.5MHz)										3.7050	-7.3	V	3.0	39.7	1.0	-45.9	-13.0	-32.9		5.5575	-1.7	V	3.0	39.9	1.0	-40.6	-13.0	-27.6		7.4100	4.2	V	3.0	39.4	1.0	-34.3	-13.0	-21.3		3.7050	-8.9	H	3.0	39.7	1.0	-47.6	-13.0	-34.6		5.5575	-6.7	H	3.0	39.9	1.0	-45.6	-13.0	-32.6		7.4100	-0.4	H	3.0	39.4	1.0	-38.8	-13.0	-25.8		Mid Channel (1890MHz)										3.7600	0.3	V	3.0	39.7	1.0	-38.4	-13.0	-25.4		5.6400	-1.9	V	3.0	40.0	1.0	-40.9	-13.0	-27.9		7.5200	0.3	V	3.0	39.4	1.0	-38.1	-13.0	-25.1		3.7600	-2.6	H	3.0	39.7	1.0	-41.3	-13.0	-28.3		5.6400	-7.6	H	3.0	40.0	1.0	-46.5	-13.0	-33.5		7.5200	-0.4	H	3.0	39.4	1.0	-38.8	-13.0	-25.8		High Channel (1907.5MHz)										3.8150	-1.2	V	3.0	39.7	1.0	-39.9	-13.0	-26.9		5.7225	-3.0	V	3.0	40.0	1.0	-42.0	-13.0	-29.0		7.6300	4.3	V	3.0	39.3	1.0	-34.0	-13.0	-21.0		3.8150	-2.7	H	3.0	39.7	1.0	-41.4	-13.0	-28.4		5.7225	-8.2	H	3.0	40.0	1.0	-47.2	-13.0	-34.2		7.6300	0.3	H	3.0	39.3	1.0	-38.1	-13.0	-25.1	
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	Chamber		Pre-amplifier		Filter		Limit																																																																																																																																																																																																																														
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<table><tr><th>f GHz</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>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr><tr><td colspan="10">Low Channel (1852.5MHz)</td></tr><tr><td>3.7050</td><td>-7.5</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-46.2</td><td>-13.0</td><td>-33.2</td><td></td></tr><tr><td>5.5575</td><td>-2.1</td><td>V</td><td>3.0</td><td>39.9</td><td>1.0</td><td>-41.1</td><td>-13.0</td><td>-28.1</td><td></td></tr><tr><td>7.4100</td><td>2.6</td><td>V</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-35.8</td><td>-13.0</td><td>-22.8</td><td></td></tr><tr><td>3.7050</td><td>-10.3</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-49.0</td><td>-13.0</td><td>-36.0</td><td></td></tr><tr><td>5.5575</td><td>-8.2</td><td>H</td><td>3.0</td><td>39.9</td><td>1.0</td><td>-47.1</td><td>-13.0</td><td>-34.1</td><td></td></tr><tr><td>7.4100</td><td>-1.5</td><td>H</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-40.0</td><td>-13.0</td><td>-27.0</td><td></td></tr><tr><td colspan="10">Mid Channel (1880MHz)</td></tr><tr><td>3.7600</td><td>0.2</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-38.5</td><td>-13.0</td><td>-25.5</td><td></td></tr><tr><td>5.6400</td><td>-1.4</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-40.4</td><td>-13.0</td><td>-27.4</td><td></td></tr><tr><td>7.5200</td><td>2.1</td><td>V</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-36.3</td><td>-13.0</td><td>-23.3</td><td></td></tr><tr><td>3.7600</td><td>-3.8</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-42.5</td><td>-13.0</td><td>-29.5</td><td></td></tr><tr><td>5.6400</td><td>-8.6</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-47.5</td><td>-13.0</td><td>-34.5</td><td></td></tr><tr><td>7.5200</td><td>-0.8</td><td>H</td><td>3.0</td><td>39.4</td><td>1.0</td><td>-39.2</td><td>-13.0</td><td>-26.2</td><td></td></tr><tr><td colspan="10">High Channel (1907.5MHz)</td></tr><tr><td>3.8150</td><td>-1.4</td><td>V</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-40.1</td><td>-13.0</td><td>-27.1</td><td></td></tr><tr><td>5.7225</td><td>-3.0</td><td>V</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-41.9</td><td>-13.0</td><td>-28.9</td><td></td></tr><tr><td>7.6300</td><td>4.4</td><td>V</td><td>3.0</td><td>39.3</td><td>1.0</td><td>-33.9</td><td>-13.0</td><td>-20.9</td><td></td></tr><tr><td>3.8150</td><td>-3.8</td><td>H</td><td>3.0</td><td>39.7</td><td>1.0</td><td>-42.5</td><td>-13.0</td><td>-29.5</td><td></td></tr><tr><td>5.7225</td><td>-8.5</td><td>H</td><td>3.0</td><td>40.0</td><td>1.0</td><td>-47.5</td><td>-13.0</td><td>-34.5</td><td></td></tr><tr><td>7.6300</td><td>0.2</td><td>H</td><td>3.0</td><td>39.3</td><td>1.0</td><td>-38.2</td><td>-13.0</td><td>-25.2</td><td></td></tr></table>										f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Channel (1852.5MHz)										3.7050	-7.5	V	3.0	39.7	1.0	-46.2	-13.0	-33.2		5.5575	-2.1	V	3.0	39.9	1.0	-41.1	-13.0	-28.1		7.4100	2.6	V	3.0	39.4	1.0	-35.8	-13.0	-22.8		3.7050	-10.3	H	3.0	39.7	1.0	-49.0	-13.0	-36.0		5.5575	-8.2	H	3.0	39.9	1.0	-47.1	-13.0	-34.1		7.4100	-1.5	H	3.0	39.4	1.0	-40.0	-13.0	-27.0		Mid Channel (1880MHz)										3.7600	0.2	V	3.0	39.7	1.0	-38.5	-13.0	-25.5		5.6400	-1.4	V	3.0	40.0	1.0	-40.4	-13.0	-27.4		7.5200	2.1	V	3.0	39.4	1.0	-36.3	-13.0	-23.3		3.7600	-3.8	H	3.0	39.7	1.0	-42.5	-13.0	-29.5		5.6400	-8.6	H	3.0	40.0	1.0	-47.5	-13.0	-34.5		7.5200	-0.8	H	3.0	39.4	1.0	-39.2	-13.0	-26.2		High Channel (1907.5MHz)										3.8150	-1.4	V	3.0	39.7	1.0	-40.1	-13.0	-27.1		5.7225	-3.0	V	3.0	40.0	1.0	-41.9	-13.0	-28.9		7.6300	4.4	V	3.0	39.3	1.0	-33.9	-13.0	-20.9		3.8150	-3.8	H	3.0	39.7	1.0	-42.5	-13.0	-29.5		5.7225	-8.5	H	3.0	40.0	1.0	-47.5	-13.0	-34.5		7.6300	0.2	H	3.0	39.3	1.0	-38.2	-13.0	-25.2	
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																																																																																																																																																												
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5.7225	-3.0	V	3.0	40.0	1.0	-41.9	-13.0	-28.9																																																																																																																																																																																																																													
7.6300	4.4	V	3.0	39.3	1.0	-33.9	-13.0	-20.9																																																																																																																																																																																																																													
3.8150	-3.8	H	3.0	39.7	1.0	-42.5	-13.0	-29.5																																																																																																																																																																																																																													
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Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.																																																																																																																																																																																																																																					

LTE

Band 2

3MHz

QPSK

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Samsung

4788103295

08-16-17

YH Lim

EUT / AC Adapter / Ear Phone / Z-Position

TX, LTE BAND 2, 3MHz BW,QPSK

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

FCC Part 24

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1851.5MHz)									
3.7030	-7.8	V	3.0	39.7	1.0	-46.4	-13.0	-33.4	
5.5545	-0.8	V	3.0	39.9	1.0	-39.7	-13.0	-26.7	
7.4060	1.0	V	3.0	39.4	1.0	-37.4	-13.0	-24.4	
3.7030	-10.2	H	3.0	39.7	1.0	-48.9	-13.0	-35.9	
5.5545	-6.9	H	3.0	39.9	1.0	-45.9	-13.0	-32.9	
7.4060	-3.0	H	3.0	39.4	1.0	-41.4	-13.0	-28.4	
Mid Channel (1880MHz)									
3.7600	1.6	V	3.0	39.7	1.0	-37.1	-13.0	-24.1	
5.6400	-3.8	V	3.0	40.0	1.0	-42.8	-13.0	-29.8	
7.5200	-1.5	V	3.0	39.4	1.0	-39.9	-13.0	-26.9	
3.7600	-1.2	H	3.0	39.7	1.0	-39.9	-13.0	-26.9	
5.6400	-7.7	H	3.0	40.0	1.0	-46.7	-13.0	-33.7	
7.5200	-2.5	H	3.0	39.4	1.0	-40.9	-13.0	-27.9	
High Channel (1908.5MHz)									
3.8170	-4.1	V	3.0	39.7	1.0	-42.8	-13.0	-29.8	
5.7255	-4.8	V	3.0	40.0	1.0	-43.8	-13.0	-30.8	
7.6340	1.8	V	3.0	39.3	1.0	-36.6	-13.0	-23.6	
3.8170	-8.2	H	3.0	39.7	1.0	-47.0	-13.0	-34.0	
5.7255	-7.9	H	3.0	40.0	1.0	-46.9	-13.0	-33.9	
7.6340	-1.8	H	3.0	39.3	1.0	-40.2	-13.0	-27.2	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE

Band 2

3MHz

16QAM

Company:

Project #:

Date:

Test Engineer:

Configuration:

Mode:

Samsung

4788103295

08-16-17

YH Lim

EUT / AC Adapter / Ear Phone / Z-Position

TX, LTE BAND 2, 3MHz BW,16QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

FCC Part 24

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1851.5MHz)									
3.7030	-7.7	V	3.0	39.7	1.0	-46.3	-13.0	-33.3	
5.5545	-1.0	V	3.0	39.9	1.0	-39.9	-13.0	-26.9	
7.4060	-0.7	V	3.0	39.4	1.0	-39.1	-13.0	-26.1	
3.7030	-9.8	H	3.0	39.7	1.0	-48.5	-13.0	-35.5	
5.5545	-6.8	H	3.0	39.9	1.0	-45.7	-13.0	-32.7	
7.4060	-3.6	H	3.0	39.4	1.0	-42.0	-13.0	-29.0	
Mid Channel (1880MHz)									
3.7600	1.1	V	3.0	39.7	1.0	-37.6	-13.0	-24.6	
5.6400	-3.9	V	3.0	40.0	1.0	-42.9	-13.0	-29.9	
7.5200	-1.5	V	3.0	39.4	1.0	-39.9	-13.0	-26.9	
3.7600	-1.8	H	3.0	39.7	1.0	-40.5	-13.0	-27.5	
5.6400	-7.9	H	3.0	40.0	1.0	-46.8	-13.0	-33.8	
7.5200	-2.3	H	3.0	39.4	1.0	-40.7	-13.0	-27.7	
High Channel (1908.5MHz)									
3.8170	-4.2	V	3.0	39.7	1.0	-42.9	-13.0	-29.9	
5.7255	-4.1	V	3.0	40.0	1.0	-43.1	-13.0	-30.1	
7.6340	2.2	V	3.0	39.3	1.0	-36.2	-13.0	-23.2	
3.8170	-8.3	H	3.0	39.7	1.0	-47.0	-13.0	-34.0	
5.7255	-7.8	H	3.0	40.0	1.0	-46.8	-13.0	-33.8	
7.6340	-2.2	H	3.0	39.3	1.0	-40.6	-13.0	-27.6	
Rev. 03.03.09									
Note: No other emissions were detected above the system noise floor.									

LTE Band 2 1.4MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
	Company: Samsung Project #: 4788103295 Date: 08-16-17 Test Engineer: YH Lim Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 1.4MHz BW,QPSK										
	Chamber		Pre-amplifier		Filter		Limit				
	Chamber 2		AFS42		Filter 1		FCC Part 24				
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Channel (1850.7MHz)										
	3.7014	-6.6	V	3.0	39.7	1.0	-45.2	-13.0	-32.2		
	5.5521	-0.6	V	3.0	39.9	1.0	-39.5	-13.0	-26.5		
	7.4028	-1.7	V	3.0	39.4	1.0	-40.1	-13.0	-27.1		
	3.7014	-8.9	H	3.0	39.7	1.0	-47.5	-13.0	-34.5		
	5.5521	-6.5	H	3.0	39.9	1.0	-45.5	-13.0	-32.5		
	7.4028	-3.0	H	3.0	39.4	1.0	-41.4	-13.0	-28.4		
	Mid Channel (1880MHz)										
	3.7600	1.5	V	3.0	39.7	1.0	-37.1	-13.0	-24.1		
	5.6400	-5.8	V	3.0	40.0	1.0	-44.8	-13.0	-31.8		
	7.5200	-0.8	V	3.0	39.4	1.0	-39.1	-13.0	-26.1		
	3.7600	-1.9	H	3.0	39.7	1.0	-40.6	-13.0	-27.6		
	5.6400	-8.6	H	3.0	40.0	1.0	-47.6	-13.0	-34.6		
	7.5200	-1.6	H	3.0	39.4	1.0	-40.0	-13.0	-27.0		
	High Channel (1909.3MHz)										
	3.8186	-4.3	V	3.0	39.7	1.0	-43.0	-13.0	-30.0		
	5.7279	-7.8	V	3.0	40.0	1.0	-46.8	-13.0	-33.8		
	7.6372	-2.2	V	3.0	39.3	1.0	-40.5	-13.0	-27.5		
	3.8186	-5.4	H	3.0	39.7	1.0	-44.1	-13.0	-31.1		
5.7279	-8.4	H	3.0	40.0	1.0	-47.4	-13.0	-34.4			
7.6372	-4.4	H	3.0	39.3	1.0	-42.8	-13.0	-29.8			
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											

LTE Band 2 1.4MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
	Company: Samsung Project #: 4788103295 Date: 08-16-17 Test Engineer: YH Lim Configuration: EUT / AC Adapter / Ear Phone / Z-Position Mode: TX, LTE BAND 2, 1.4MHz BW,16QAM										
	Chamber		Pre-amplifier		Filter		Limit				
	Chamber 2		AFS42		Filter 1		FCC Part 24				
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Channel (1850.7MHz)										
	3.7014	-6.7	V	3.0	39.7	1.0	-45.3	-13.0	-32.3		
	5.5521	-0.7	V	3.0	39.9	1.0	-39.6	-13.0	-26.6		
	7.4028	-2.9	V	3.0	39.4	1.0	-41.3	-13.0	-28.3		
	3.7014	-8.7	H	3.0	39.7	1.0	-47.3	-13.0	-34.3		
	5.5521	-6.5	H	3.0	39.9	1.0	-45.5	-13.0	-32.5		
	7.4028	-3.2	H	3.0	39.4	1.0	-41.7	-13.0	-28.7		
	Mid Channel (1880MHz)										
	3.7600	1.0	V	3.0	39.7	1.0	-37.6	-13.0	-24.6		
	5.6400	-5.3	V	3.0	40.0	1.0	-44.2	-13.0	-31.2		
	7.5200	-0.6	V	3.0	39.4	1.0	-39.0	-13.0	-26.0		
	3.7600	-2.3	H	3.0	39.7	1.0	-40.9	-13.0	-27.9		
	5.6400	-9.1	H	3.0	40.0	1.0	-48.1	-13.0	-35.1		
	7.5200	-1.8	H	3.0	39.4	1.0	-40.1	-13.0	-27.1		
	High Channel (1909.3MHz)										
	3.8186	-4.4	V	3.0	39.7	1.0	-43.1	-13.0	-30.1		
	5.7279	-7.8	V	3.0	40.0	1.0	-46.8	-13.0	-33.8		
	7.6372	-2.6	V	3.0	39.3	1.0	-40.9	-13.0	-27.9		
	3.8186	-5.9	H	3.0	39.7	1.0	-44.7	-13.0	-31.7		
5.7279	-8.6	H	3.0	40.0	1.0	-47.5	-13.0	-34.5			
7.6372	-4.6	H	3.0	39.3	1.0	-42.9	-13.0	-29.9			
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											

LTE Band 13

LTE Band 13 10MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement																																																																																								
	Company: Samsung																																																																																								
	Project #: 4788103295																																																																																								
	Date: 08-31-17																																																																																								
	Test Engineer: Chan Park																																																																																								
	Configuration: EUT / AC Adapter / Earphone, X Position																																																																																								
	Mode: TX, LTE BAND 13, 10MHz BW, QPSK																																																																																								
	Chamber Pre-amplifier Filter Limit Chamber 2 AFS42 Filter 1 Part 22																																																																																								
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Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.																																																																																									

LTE Band 13 10MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement																																																																																								
	Company: Samsung																																																																																								
	Project #: 4788103295																																																																																								
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Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.																																																																																									

LTE
Band 13

5MHz

QPSK

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788103295

Date: 08-31-17

Test Engineer: Chan Park

Configuration: EUT / AC Adapter / Earphone, X Position

Mode: TX, LTE BAND 13, 5MHz BW,QPSK

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (779.5MHz)									
1.5590	-17.0	V	3.0	38.2	1.0	-54.1	-40.0	-14.1	
2.3385	-14.4	V	3.0	38.7	1.0	-52.1	-13.0	-39.1	
3.1180	-12.8	V	3.0	39.3	1.0	-51.2	-13.0	-38.2	
1.5590	-15.2	H	3.0	38.2	1.0	-52.4	-40.0	-12.4	
2.3385	-13.9	H	3.0	38.7	1.0	-51.6	-13.0	-38.6	
3.1180	-11.9	H	3.0	39.3	1.0	-50.3	-13.0	-37.3	
Mid Channel (782MHz)									
1.5640	-16.6	V	3.0	38.2	1.0	-53.8	-40.0	-13.8	
2.3460	-13.4	V	3.0	38.7	1.0	-51.1	-13.0	-38.1	
3.1280	-12.0	V	3.0	39.3	1.0	-50.3	-13.0	-37.3	
1.5640	-14.0	H	3.0	38.2	1.0	-51.2	-40.0	-11.2	
2.3460	-12.7	H	3.0	38.7	1.0	-50.4	-13.0	-37.4	
3.1280	-11.4	H	3.0	39.3	1.0	-49.7	-13.0	-36.7	
High Channel (784.5MHz)									
1.5690	-17.1	V	3.0	38.2	1.0	-54.3	-40.0	-14.3	
2.3535	-14.0	V	3.0	38.7	1.0	-51.7	-13.0	-38.7	
3.1380	-12.6	V	3.0	39.3	1.0	-51.0	-13.0	-38.0	
1.5690	-16.1	H	3.0	38.2	1.0	-53.3	-40.0	-13.3	
2.3535	-13.7	H	3.0	38.7	1.0	-51.4	-13.0	-38.4	
3.1380	-12.2	H	3.0	39.3	1.0	-50.5	-13.0	-37.5	

Rev. 03.03.09

Note: No other emissions were detected above the system noise floor.

LTE
Band 13

5MHz

16QAM

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788103295

Date: 08-31-17

Test Engineer: Chan Park

Configuration: EUT / AC Adapter / Earphone, X Position

Mode: TX, LTE BAND 13, 5MHz BW,16QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (779.5MHz)									
1.5590	-16.8	V	3.0	38.2	1.0	-53.9	-40.0	-13.9	
2.3385	-14.1	V	3.0	38.7	1.0	-51.8	-13.0	-38.8	
3.1180	-12.4	V	3.0	39.3	1.0	-50.8	-13.0	-37.8	
1.5590	-15.6	H	3.0	38.2	1.0	-52.8	-40.0	-12.8	
2.3385	-13.7	H	3.0	38.7	1.0	-51.4	-13.0	-38.4	
3.1180	-11.8	H	3.0	39.3	1.0	-50.1	-13.0	-37.1	
Mid Channel (782MHz)									
1.5640	-16.9	V	3.0	38.2	1.0	-54.1	-40.0	-14.1	
2.3460	-13.5	V	3.0	38.7	1.0	-51.2	-13.0	-38.2	
3.1280	-12.1	V	3.0	39.3	1.0	-50.5	-13.0	-37.5	
1.5640	-14.2	H	3.0	38.2	1.0	-51.4	-40.0	-11.4	
2.3460	-13.2	H	3.0	38.7	1.0	-50.9	-13.0	-37.9	
3.1280	-11.6	H	3.0	39.3	1.0	-49.9	-13.0	-36.9	
High Channel (784.5MHz)									
1.5690	-17.3	V	3.0	38.2	1.0	-54.5	-40.0	-14.5	
2.3535	-14.3	V	3.0	38.7	1.0	-52.0	-13.0	-39.0	
3.1380	-12.8	V	3.0	39.3	1.0	-51.2	-13.0	-38.2	
1.5690	-16.5	H	3.0	38.2	1.0	-53.7	-40.0	-13.7	
2.3535	-14.1	H	3.0	38.7	1.0	-51.8	-13.0	-38.8	
3.1380	-12.6	H	3.0	39.3	1.0	-51.0	-13.0	-38.0	

Rev. 03.03.09

Note: No other emissions were detected above the system noise floor.

LTE Band 7

UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
LTE Band 7 20MHz QPSK	Company: Samsung									
	Project #: 4788103295									
	Date: 09-07-17									
	Test Engineer: YH Lim									
	Configuration: EUT / AC Adapter / Ear Phone / X-Position									
	Mode: TX, LTE BAND 7, 20MHz BW, QPSK									
	Chamber		Pre-amplifier		Filter		Limit			
	Chamber 2		AFS42		Filter 1		FCC Part 27			
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. (2510 MHz)										
5.0200	-5.3	V	3.0	39.8	1.0	-44.1	-25.0	-19.1		
7.5300	-7.9	V	3.0	39.4	1.0	-46.3	-25.0	-21.3		
10.0400	-9.1	V	3.0	38.6	1.0	-46.7	-25.0	-21.7		
5.0200	-7.5	H	3.0	39.8	1.0	-46.2	-25.0	-21.2		
7.5300	-7.9	H	3.0	39.4	1.0	-46.3	-25.0	-21.3		
10.0400	-8.7	H	3.0	38.6	1.0	-46.3	-25.0	-21.3		
Mid Ch. (2535 MHz)										
5.0700	-1.7	V	3.0	39.8	1.0	-40.5	-25.0	-15.5		
7.6050	-7.6	V	3.0	39.3	1.0	-45.9	-25.0	-20.9		
10.1400	-9.3	V	3.0	38.6	1.0	-46.8	-25.0	-21.8		
5.0700	-3.6	H	3.0	39.8	1.0	-42.4	-25.0	-17.4		
7.6050	-7.9	H	3.0	39.3	1.0	-46.3	-25.0	-21.3		
10.1400	-9.5	H	3.0	38.6	1.0	-47.0	-25.0	-22.0		
High Ch. (2560 MHz)										
5.1200	-1.0	V	3.0	39.8	1.0	-39.8	-25.0	-14.8		
7.6800	-8.7	V	3.0	39.3	1.0	-47.0	-25.0	-22.0		
10.2400	-9.3	V	3.0	38.6	1.0	-46.8	-25.0	-21.8		
5.1200	-3.1	H	3.0	39.8	1.0	-41.9	-25.0	-16.9		
7.6800	-7.2	H	3.0	39.3	1.0	-45.5	-25.0	-20.5		
10.2400	-9.2	H	3.0	38.6	1.0	-46.7	-25.0	-21.7		
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 7 20MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4788103295									
	Date: 09-07-17									
	Test Engineer: YH Lim									
	Configuration: EUT / AC Adapter / Ear Phone / X-Position									
	Mode: TX, LTE BAND 7, 20MHz BW, 16QAM									
	Chamber		Pre-amplifier		Filter		Limit			
	Chamber 2		AFS42		Filter 1		FCC Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch. (2510 MHz)										
5.0200	-5.5	V	3.0	39.8	1.0	-44.3	-25.0	-19.3		
7.5300	-7.4	V	3.0	39.4	1.0	-45.8	-25.0	-20.8		
10.0400	-9.4	V	3.0	38.6	1.0	-47.0	-25.0	-22.0		
5.0200	-8.2	H	3.0	39.8	1.0	-47.0	-25.0	-22.0		
7.5300	-9.0	H	3.0	39.4	1.0	-47.4	-25.0	-22.4		
10.0400	-9.1	H	3.0	38.6	1.0	-46.7	-25.0	-21.7		
Mid Ch. (2535 MHz)										
5.0700	-2.2	V	3.0	39.8	1.0	-41.0	-25.0	-16.0		
7.6050	-7.1	V	3.0	39.3	1.0	-45.5	-25.0	-20.5		
10.1400	-9.7	V	3.0	38.6	1.0	-47.3	-25.0	-22.3		
5.0700	-3.3	H	3.0	39.8	1.0	-42.1	-25.0	-17.1		
7.6050	-7.3	H	3.0	39.3	1.0	-45.6	-25.0	-20.6		
10.1400	-9.6	H	3.0	38.6	1.0	-47.1	-25.0	-22.1		
High Ch. (2560 MHz)										
5.1200	-1.1	V	3.0	39.8	1.0	-39.9	-25.0	-14.9		
7.6800	-8.1	V	3.0	39.3	1.0	-46.4	-25.0	-21.4		
10.2400	-9.5	V	3.0	38.6	1.0	-47.1	-25.0	-22.1		
5.1200	-3.7	H	3.0	39.8	1.0	-42.5	-25.0	-17.5		
7.6800	-7.2	H	3.0	39.3	1.0	-45.6	-25.0	-20.6		
10.2400	-9.5	H	3.0	38.6	1.0	-47.0	-25.0	-22.0		
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

LTE Band 7 15MHz QPSK	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
	Company: Samsung										
	Project #: 4788103295										
	Date: 09-07-17										
	Test Engineer: YH Lim										
	Configuration: EUT / AC Adapter / Ear Phone / X-Position										
	Mode: TX, LTE BAND 7, 15MHz BW, QPSK										
	Chamber		Pre-amplifier		Filter		Limit				
	Chamber 2		AFS42		Filter 1		FCC Part 27				
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch. (2507.5 MHz)										
	5.0150	-5.7	V	3.0	39.8	1.0	-44.5	-25.0	-19.5		
	7.5225	-6.7	V	3.0	39.4	1.0	-45.1	-25.0	-20.1		
	10.0300	-8.4	V	3.0	38.6	1.0	-46.0	-25.0	-21.0		
	5.0150	-8.6	H	3.0	39.8	1.0	-47.3	-25.0	-22.3		
	7.5225	-8.8	H	3.0	39.4	1.0	-47.1	-25.0	-22.1		
	10.0300	-8.4	H	3.0	38.6	1.0	-46.0	-25.0	-21.0		
	Mid Ch. (2535 MHz)										
	5.0700	-1.3	V	3.0	39.8	1.0	-40.1	-25.0	-15.1		
	7.6050	-6.5	V	3.0	39.3	1.0	-44.8	-25.0	-19.8		
	10.1400	-8.8	V	3.0	38.6	1.0	-46.3	-25.0	-21.3		
	5.0700	-3.4	H	3.0	39.8	1.0	-42.1	-25.0	-17.1		
	7.6050	-7.9	H	3.0	39.3	1.0	-46.2	-25.0	-21.2		
	10.1400	-9.4	H	3.0	38.6	1.0	-46.9	-25.0	-21.9		
	High Ch. (2562.5 MHz)										
5.1250	-1.2	V	3.0	39.8	1.0	-40.1	-25.0	-15.1			
7.6875	-6.3	V	3.0	39.3	1.0	-44.6	-25.0	-19.6			
10.2500	-9.2	V	3.0	38.6	1.0	-46.7	-25.0	-21.7			
5.1250	-3.2	H	3.0	39.8	1.0	-42.0	-25.0	-17.0			
7.6875	-5.2	H	3.0	39.3	1.0	-43.5	-25.0	-18.5			
10.2500	-8.0	H	3.0	38.6	1.0	-45.6	-25.0	-20.6			
Rev. 03.03.09											
Note: No other emissions were detected above the system noise floor.											
LTE Band 7 15MHz 16QAM	UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
	Company: Samsung										
	Project #: 4788103295										
	Date: 09-07-17										
	Test Engineer: YH Lim										
	Configuration: EUT / AC Adapter / Ear Phone / X-Position										
	Mode: TX, LTE BAND 7, 15MHz BW, 16QAM										
	Chamber		Pre-amplifier		Filter		Limit				
	Chamber 2		AFS42		Filter 1		FCC Part 27				
	f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
	Low Ch. (2507.5 MHz)										
	5.0150	-5.5	V	3.0	39.8	1.0	-44.3	-25.0	-19.3		
	7.5225	-7.9	V	3.0	39.4	1.0	-46.3	-25.0	-21.3		
	10.0300	-7.8	V	3.0	38.6	1.0	-45.4	-25.0	-20.4		
	5.0150	-7.7	H	3.0	39.8	1.0	-46.5	-25.0	-21.5		
	7.5225	-9.3	H	3.0	39.4	1.0	-47.7	-25.0	-22.7		
	10.0300	-9.3	H	3.0	38.6	1.0	-46.9	-25.0	-21.9		
	Mid Ch. (2535 MHz)										
	5.0700	-1.5	V	3.0	39.8	1.0	-40.3	-25.0	-15.3		
	7.6050	-6.8	V	3.0	39.3	1.0	-45.2	-25.0	-20.2		
	10.1400	-9.6	V	3.0	38.6	1.0	-47.1	-25.0	-22.1		
	5.0700	-3.1	H	3.0	39.8	1.0	-41.9	-25.0	-16.9		
	7.6050	-8.2	H	3.0	39.3	1.0	-46.6	-25.0	-21.6		
	10.1400	-9.3	H	3.0	38.6	1.0	-46.9	-25.0	-21.9		
	High Ch. (2562.5 MHz)										
5.1250	-1.0	V	3.0	39.8	1.0	-39.9	-25.0	-14.9			
7.6875	-7.4	V	3.0	39.3	1.0	-45.7	-25.0	-20.7			
10.2500	-9.7	V	3.0	38.6	1.0	-47.2	-25.0	-22.2			
5.1250	-3.5	H	3.0	39.8	1.0	-42.3	-25.0	-17.3			
7.6875	-5.4	H	3.0	39.3	1.0	-43.7	-25.0	-18.7			
10.2500	-8.9	H	3.0	38.6	1.0	-46.5	-25.0	-21.5			
Rev. 03.03.09											
Note: No other emissions were detected above the system noise floor.											

UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-04-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / X-Position Mode: TX, LTE BAND 7, 10MHz BW, QPSK									
Chamber Chamber 2 Pre-amplifier AFS42 Filter Filter 1 Limit FCC Part 27									
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. (2505 MHz)									
5.0100	-6.2	V	3.0	39.8	1.0	-45.0	-25.0	-20.0	
7.5150	-8.1	V	3.0	39.4	1.0	-46.5	-25.0	-21.5	
10.0200	-9.3	V	3.0	38.6	1.0	-46.8	-25.0	-21.8	
5.0100	-7.6	H	3.0	39.8	1.0	-46.3	-25.0	-21.3	
7.5150	-11.2	H	3.0	39.4	1.0	-49.6	-25.0	-24.6	
10.0200	-9.8	H	3.0	38.6	1.0	-47.3	-25.0	-22.3	
Mid Ch. (2535 MHz)									
5.0700	-1.5	V	3.0	39.8	1.0	-40.3	-25.0	-15.3	
7.6050	-6.7	V	3.0	39.3	1.0	-45.0	-25.0	-20.0	
10.1400	-9.6	V	3.0	38.6	1.0	-47.2	-25.0	-22.2	
5.0700	-3.4	H	3.0	39.8	1.0	-42.2	-25.0	-17.2	
7.6050	-7.5	H	3.0	39.3	1.0	-45.9	-25.0	-20.9	
10.1400	-9.8	H	3.0	38.6	1.0	-47.4	-25.0	-22.4	
High Ch. (2565 MHz)									
5.1300	-2.0	V	3.0	39.8	1.0	-40.8	-25.0	-15.8	
7.6950	-5.8	V	3.0	39.3	1.0	-44.1	-25.0	-19.1	
10.2600	-9.0	V	3.0	38.6	1.0	-46.5	-25.0	-21.5	
5.1300	-3.5	H	3.0	39.8	1.0	-42.4	-25.0	-17.4	
7.6950	-5.4	H	3.0	39.3	1.0	-43.7	-25.0	-18.7	
10.2600	-9.1	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4788103295 Date: 09-04-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Ear Phone / X-Position Mode: TX, LTE BAND 7, 10MHz BW, 16QAM									
Chamber Chamber 2 Pre-amplifier AFS42 Filter Filter 1 Limit FCC Part 27									
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. (2505 MHz)									
5.0100	-6.0	V	3.0	39.8	1.0	-44.7	-25.0	-19.7	
7.5150	-8.2	V	3.0	39.4	1.0	-46.6	-25.0	-21.6	
10.0200	-9.4	V	3.0	38.6	1.0	-47.0	-25.0	-22.0	
5.0100	-7.2	H	3.0	39.8	1.0	-45.9	-25.0	-20.9	
7.5150	-11.5	H	3.0	39.4	1.0	-49.8	-25.0	-24.8	
10.0200	-9.2	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	
Mid Ch. (2535 MHz)									
5.0700	-1.7	V	3.0	39.8	1.0	-40.5	-25.0	-15.5	
7.6050	-7.0	V	3.0	39.3	1.0	-45.3	-25.0	-20.3	
10.1400	-9.1	V	3.0	38.6	1.0	-46.7	-25.0	-21.7	
5.0700	-3.5	H	3.0	39.8	1.0	-42.2	-25.0	-17.2	
7.6050	-7.1	H	3.0	39.3	1.0	-45.4	-25.0	-20.4	
10.1400	-9.8	H	3.0	38.6	1.0	-47.4	-25.0	-22.4	
High Ch. (2565 MHz)									
5.1300	-1.9	V	3.0	39.8	1.0	-40.7	-25.0	-15.7	
7.6950	-6.3	V	3.0	39.3	1.0	-44.6	-25.0	-19.6	
10.2600	-9.3	V	3.0	38.6	1.0	-46.9	-25.0	-21.9	
5.1300	-3.5	H	3.0	39.8	1.0	-42.3	-25.0	-17.3	
7.6950	-5.8	H	3.0	39.3	1.0	-44.1	-25.0	-19.1	
10.2600	-8.0	H	3.0	38.6	1.0	-45.6	-25.0	-20.6	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

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