

### 11.2.1. SPURIOUS RADIATION PLOTS

#### LTE Band 5

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
LTE Band 5 10MHz QPSK		Company: Samsung										
		Project #: 4787852400										
		Date: 02-21-17										
		Test Engineer: JH Park										
		Configuration: EUT / AC Adapter / Earphone, X Position										
		Mode: TX, LTE BAND 5, 10MHz BW,QPSK										
		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 (829MHz)										
		1.6580	-4.8	V	3.0	38.2	1.0	-42.1	-13.0	-29.1		
		2.4870	-6.1	V	3.0	38.8	1.0	-44.0	-13.0	-31.0		
		3.3160	4.4	V	3.0	39.4	1.0	-34.1	-13.0	-21.1		
		1.6580	-4.6	H	3.0	38.2	1.0	-41.8	-13.0	-28.8		
		2.4870	-7.6	H	3.0	38.8	1.0	-45.4	-13.0	-32.4		
		3.3160	-2.2	H	3.0	39.4	1.0	-40.6	-13.0	-27.6		
		Mid Channel (836.5MHz)										
		1.6730	-11.6	V	3.0	38.2	1.0	-48.8	-13.0	-35.8		
		2.5090	0.0	V	3.0	38.8	1.0	-37.8	-13.0	-24.8		
		3.3460	1.2	V	3.0	39.5	1.0	-37.3	-13.0	-24.3		
		1.6730	-10.3	H	3.0	38.2	1.0	-47.5	-13.0	-34.5		
		2.5090	-2.1	H	3.0	38.8	1.0	-39.9	-13.0	-26.9		
		3.3460	-0.4	H	3.0	39.5	1.0	-38.8	-13.0	-25.8		
		High Channel (844MHz)										
		1.6880	-5.8	V	3.0	38.2	1.0	-43.0	-13.0	-30.0		
		2.5320	0.9	V	3.0	38.9	1.0	-37.0	-13.0	-24.0		
		3.3760	-6.2	V	3.0	39.5	1.0	-44.6	-13.0	-31.6		
		1.6880	-3.4	H	3.0	38.2	1.0	-40.6	-13.0	-27.6		
		2.5320	-3.1	H	3.0	38.9	1.0	-40.9	-13.0	-27.9		
		3.3760	-8.2	H	3.0	39.5	1.0	-46.6	-13.0	-33.6		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 5 10MHz 16QAM		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
		Company: Samsung										
		Project #: 4787852400										
		Date: 02-21-17										
		Test Engineer: JH Park										
		Configuration: EUT / AC Adapter / Earphone, X Position										
		Mode: TX, LTE BAND 5, 10MHz 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 (829MHz)										
		1.6580	-5.1	V	3.0	38.2	1.0	-42.3	-13.0	-29.3		
		2.4870	-5.5	V	3.0	38.8	1.0	-43.3	-13.0	-30.3		
		3.3160	4.1	V	3.0	39.4	1.0	-34.4	-13.0	-21.4		
		1.6580	-5.3	H	3.0	38.2	1.0	-42.5	-13.0	-29.5		
		2.4870	-7.0	H	3.0	38.8	1.0	-44.8	-13.0	-31.8		
		3.3160	-2.3	H	3.0	39.4	1.0	-40.7	-13.0	-27.7		
		Mid Channel (836.5MHz)										
		1.6730	-11.7	V	3.0	38.2	1.0	-48.9	-13.0	-35.9		
		2.5090	-1.2	V	3.0	38.8	1.0	-39.0	-13.0	-26.0		
		3.3460	0.6	V	3.0	39.5	1.0	-37.9	-13.0	-24.9		
		1.6730	-10.1	H	3.0	38.2	1.0	-47.3	-13.0	-34.3		
		2.5090	-2.8	H	3.0	38.8	1.0	-40.6	-13.0	-27.6		
		3.3460	-1.4	H	3.0	39.5	1.0	-39.9	-13.0	-26.9		
		High Channel (844MHz)										
		1.6880	-5.0	V	3.0	38.2	1.0	-42.3	-13.0	-29.3		
		2.5320	-1.9	V	3.0	38.9	1.0	-39.8	-13.0	-26.8		
		3.3760	-6.4	V	3.0	39.5	1.0	-44.9	-13.0	-31.9		
		1.6880	-4.7	H	3.0	38.2	1.0	-41.9	-13.0	-28.9		
		2.5320	-6.0	H	3.0	38.9	1.0	-43.9	-13.0	-30.9		
		3.3760	-8.9	H	3.0	39.5	1.0	-47.3	-13.0	-34.3		
		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									
LTE Band 5 5MHz QPSK	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 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 (826.5MHz)									
		1.6530	-3.3	V	3.0	38.2	1.0	-40.5	-13.0	-27.5	
		2.4790	-4.7	V	3.0	38.8	1.0	-42.5	-13.0	-29.5	
		3.3060	2.1	V	3.0	39.4	1.0	-36.3	-13.0	-23.3	
		1.6530	-4.8	H	3.0	38.2	1.0	-42.1	-13.0	-29.1	
		2.4790	-7.6	H	3.0	38.8	1.0	-45.4	-13.0	-32.4	
		3.3060	-4.2	H	3.0	39.4	1.0	-42.7	-13.0	-29.7	
	Mid Channel (836.5MHz)										
	1.6730	-11.3	V	3.0	38.2	1.0	-48.5	-13.0	-35.5		
	2.5090	1.8	V	3.0	38.8	1.0	-36.1	-13.0	-23.1		
	3.3460	1.3	V	3.0	39.5	1.0	-37.1	-13.0	-24.1		
	1.6730	-10.6	H	3.0	38.2	1.0	-47.8	-13.0	-34.8		
	2.5090	-4.1	H	3.0	38.8	1.0	-42.0	-13.0	-29.0		
	3.3460	-1.3	H	3.0	39.5	1.0	-39.8	-13.0	-26.8		
	High Channel (846.5MHz)										
	1.6930	-5.7	V	3.0	38.2	1.0	-42.9	-13.0	-29.9		
	2.5390	-4.0	V	3.0	38.9	1.0	-41.9	-13.0	-28.9		
	3.3860	-0.5	V	3.0	39.5	1.0	-39.0	-13.0	-26.0		
	1.6930	-3.6	H	3.0	38.2	1.0	-40.8	-13.0	-27.8		
	2.5390	-10.4	H	3.0	38.9	1.0	-48.2	-13.0	-35.2		
	3.3860	-4.6	H	3.0	39.5	1.0	-43.1	-13.0	-30.1		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 5 5MHz 16QAM	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 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 (826.5MHz)									
		1.6530	-3.7	V	3.0	38.2	1.0	-40.9	-13.0	-27.9	
		2.4790	-5.0	V	3.0	38.8	1.0	-42.8	-13.0	-29.8	
		3.3060	1.9	V	3.0	39.4	1.0	-36.5	-13.0	-23.5	
		1.6530	-5.3	H	3.0	38.2	1.0	-42.5	-13.0	-29.5	
		2.4790	-8.2	H	3.0	38.8	1.0	-46.0	-13.0	-33.0	
		3.3060	-4.2	H	3.0	39.4	1.0	-42.6	-13.0	-29.6	
	Mid Channel (836.5MHz)										
	1.6730	-11.5	V	3.0	38.2	1.0	-48.7	-13.0	-35.7		
	2.5090	-0.3	V	3.0	38.8	1.0	-38.2	-13.0	-25.2		
	3.3460	-0.6	V	3.0	39.5	1.0	-39.1	-13.0	-26.1		
	1.6730	-9.7	H	3.0	38.2	1.0	-46.9	-13.0	-33.9		
	2.5090	-6.6	H	3.0	38.8	1.0	-44.4	-13.0	-31.4		
	3.3460	-3.0	H	3.0	39.5	1.0	-41.4	-13.0	-28.4		
	High Channel (846.5MHz)										
	1.6930	-6.4	V	3.0	38.2	1.0	-43.6	-13.0	-30.6		
	2.5390	-5.1	V	3.0	38.9	1.0	-42.9	-13.0	-29.9		
	3.3860	-0.7	V	3.0	39.5	1.0	-39.2	-13.0	-26.2		
	1.6930	-3.9	H	3.0	38.2	1.0	-41.1	-13.0	-28.1		
	2.5390	-11.8	H	3.0	38.9	1.0	-49.7	-13.0	-36.7		
	3.3860	-4.9	H	3.0	39.5	1.0	-43.4	-13.0	-30.4		
		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									
LTE Band 5 3MHz QPSK	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 3MHz 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 (825.5MHz)										
	1.6510	-3.3	V	3.0	38.2	1.0	-40.5	-13.0	-27.5		
	2.4765	3.4	V	3.0	38.8	1.0	-34.4	-13.0	-21.4		
	3.3020	-3.6	V	3.0	39.4	1.0	-42.1	-13.0	-29.1		
	1.6510	-2.1	H	3.0	38.2	1.0	-39.3	-13.0	-26.3		
	2.4765	-4.2	H	3.0	38.8	1.0	-42.0	-13.0	-29.0		
	3.3020	-4.3	H	3.0	39.4	1.0	-42.8	-13.0	-29.8		
	Mid Channel (836.5MHz)										
1.6730	-15.0	V	3.0	38.2	1.0	-52.3	-13.0	-39.3			
2.5090	1.2	V	3.0	38.8	1.0	-36.7	-13.0	-23.7			
3.3460	6.5	V	3.0	39.5	1.0	-32.0	-13.0	-19.0			
1.6730	-10.0	H	3.0	38.2	1.0	-47.2	-13.0	-34.2			
2.5090	-2.0	H	3.0	38.8	1.0	-39.9	-13.0	-26.9			
3.3460	1.5	H	3.0	39.5	1.0	-36.9	-13.0	-23.9			
High Channel (847.5MHz)											
1.6950	-3.2	V	3.0	38.2	1.0	-40.4	-13.0	-27.4			
2.5425	-5.1	V	3.0	38.9	1.0	-43.0	-13.0	-30.0			
3.3900	0.9	V	3.0	39.5	1.0	-37.6	-13.0	-24.6			
1.6950	-3.1	H	3.0	38.2	1.0	-40.4	-13.0	-27.4			
2.5425	-9.1	H	3.0	38.9	1.0	-46.9	-13.0	-33.9			
3.3900	-5.8	H	3.0	39.5	1.0	-44.3	-13.0	-31.3			
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											
LTE Band 5 3MHz 16QAM	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park 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		
	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	-3.9	V	3.0	38.2	1.0	-41.2	-13.0	-28.2		
	2.4765	6.1	V	3.0	38.8	1.0	-31.7	-13.0	-18.7		
	3.3020	-3.8	V	3.0	39.4	1.0	-42.2	-13.0	-29.2		
	1.6510	-1.7	H	3.0	38.2	1.0	-38.9	-13.0	-25.9		
	2.4765	-5.8	H	3.0	38.8	1.0	-43.6	-13.0	-30.6		
	3.3020	-4.3	H	3.0	39.4	1.0	-42.7	-13.0	-29.7		
	Mid Channel (836.5MHz)										
1.6730	-14.1	V	3.0	38.2	1.0	-51.3	-13.0	-38.3			
2.5090	0.1	V	3.0	38.8	1.0	-37.7	-13.0	-24.7			
3.3460	6.1	V	3.0	39.5	1.0	-32.4	-13.0	-19.4			
1.6730	-9.6	H	3.0	38.2	1.0	-46.8	-13.0	-33.8			
2.5090	-2.5	H	3.0	38.8	1.0	-40.3	-13.0	-27.3			
3.3460	0.7	H	3.0	39.5	1.0	-37.7	-13.0	-24.7			
High Channel (847.5MHz)											
1.6950	-4.4	V	3.0	38.2	1.0	-41.6	-13.0	-28.6			
2.5425	-5.4	V	3.0	38.9	1.0	-43.3	-13.0	-30.3			
3.3900	0.3	V	3.0	39.5	1.0	-38.2	-13.0	-25.2			
1.6950	-3.2	H	3.0	38.2	1.0	-40.5	-13.0	-27.5			
2.5425	-9.1	H	3.0	38.9	1.0	-47.0	-13.0	-34.0			
3.3900	-5.2	H	3.0	39.5	1.0	-43.7	-13.0	-30.7			
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											
LTE Band 5 1.4MHz QPSK	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park 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				
			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	-7.5	V	3.0	38.2	1.0	-44.7	-13.0	-31.7		
			2.4741	0.9	V	3.0	38.8	1.0	-36.9	-13.0	-23.9		
			3.2988	-0.6	V	3.0	39.4	1.0	-39.0	-13.0	-26.0		
			1.6494	-2.6	H	3.0	38.2	1.0	-39.8	-13.0	-26.8		
			2.4741	-2.3	H	3.0	38.8	1.0	-40.1	-13.0	-27.1		
			3.2988	-5.4	H	3.0	39.4	1.0	-43.8	-13.0	-30.8		
			Mid Channel (836.5MHz)										
			1.6730	-4.6	V	3.0	38.2	1.0	-41.9	-13.0	-28.9		
			2.5090	1.2	V	3.0	38.8	1.0	-36.7	-13.0	-23.7		
			3.3460	4.1	V	3.0	39.5	1.0	-34.4	-13.0	-21.4		
			1.6730	-11.0	H	3.0	38.2	1.0	-48.2	-13.0	-35.2		
			2.5090	-1.7	H	3.0	38.8	1.0	-39.5	-13.0	-26.5		
		3.3460	1.1	H	3.0	39.5	1.0	-37.3	-13.0	-24.3			
		High Channel (848.3MHz)											
		1.6966	-8.0	V	3.0	38.2	1.0	-45.3	-13.0	-32.3			
		2.5449	-2.8	V	3.0	38.9	1.0	-40.7	-13.0	-27.7			
		3.3932	4.4	V	3.0	39.5	1.0	-34.0	-13.0	-21.0			
		1.6966	-0.9	H	3.0	38.2	1.0	-38.2	-13.0	-25.2			
		2.5449	-5.5	H	3.0	38.9	1.0	-43.4	-13.0	-30.4			
		3.3932	-0.2	H	3.0	39.5	1.0	-38.7	-13.0	-25.7			
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											
LTE Band 5 1.4MHz 16QAM	Company: Samsung Project #: 4787852400 Date: 02-21-17 Test Engineer: JH Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 1.4MHz 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 (824.7MHz)										
			1.6494	-8.0	V	3.0	38.2	1.0	-45.2	-13.0	-32.2		
			2.4741	0.0	V	3.0	38.8	1.0	-37.8	-13.0	-24.8		
			3.2988	-0.3	V	3.0	39.4	1.0	-38.7	-13.0	-25.7		
			1.6494	-3.0	H	3.0	38.2	1.0	-40.2	-13.0	-27.2		
			2.4741	-3.9	H	3.0	38.8	1.0	-41.7	-13.0	-28.7		
			3.2988	-6.1	H	3.0	39.4	1.0	-44.5	-13.0	-31.5		
			Mid Channel (836.5MHz)										
			1.6730	-4.8	V	3.0	38.2	1.0	-42.1	-13.0	-29.1		
			2.5090	-1.0	V	3.0	38.8	1.0	-38.8	-13.0	-25.8		
			3.3460	3.3	V	3.0	39.5	1.0	-35.2	-13.0	-22.2		
			1.6730	-10.8	H	3.0	38.2	1.0	-48.0	-13.0	-35.0		
			2.5090	-3.5	H	3.0	38.8	1.0	-41.3	-13.0	-28.3		
		3.3460	-1.7	H	3.0	39.5	1.0	-40.2	-13.0	-27.2			
		High Channel (848.3MHz)											
		1.6966	-8.5	V	3.0	38.2	1.0	-45.8	-13.0	-32.8			
		2.5449	-5.3	V	3.0	38.9	1.0	-43.1	-13.0	-30.1			
		3.3932	1.4	V	3.0	39.5	1.0	-37.1	-13.0	-24.1			
		1.6966	-1.2	H	3.0	38.2	1.0	-38.4	-13.0	-25.4			
		2.5449	-8.0	H	3.0	38.9	1.0	-45.8	-13.0	-32.8			
		3.3932	-0.4	H	3.0	39.5	1.0	-38.9	-13.0	-25.9			
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											