

High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2										
LTE Band 5 5MHz QPSK	Company:		Samsung							
	Project #:		4787821324							
	Date:		01-19-17							
	Test Engineer:		JH Park							
	Configuration:		EUT ONLY, X Position							
	Mode:		LTE5 5MHz FUND QPSK							
	Test Equipment:									
	Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT)									
	Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes	
	Low Ch									
	826.50	14.60	V	1.1	-1.5	12.00	38.5	-26.5		
	826.50	23.04	H	1.1	-1.5	20.44	38.5	-18.0		
	Mid Ch									
	836.50	13.52	V	1.1	-1.4	11.03	38.5	-27.4		
836.50	22.70	H	1.1	-1.4	20.21	38.5	-18.2			
High Ch										
846.50	11.90	V	1.6	-1.3	9.02	38.5	-29.4			
846.50	22.67	H	1.6	-1.3	19.79	38.5	-18.7			
Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm										
High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2										
Company:		Samsung								
Project #:		4787821324								
Date:		01-19-17								
Test Engineer:		JH Park								
Configuration:		EUT ONLY, X Position								
Mode:		LTE5 5MHz FUND 16QAM								
Test Equipment:										
Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT)										
Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes		
Low Ch										
826.50	13.59	V	1.1	-1.5	10.99	38.5	-27.5			
826.50	22.04	H	1.1	-1.5	19.44	38.5	-19.0			
Mid Ch										
836.50	12.51	V	1.1	-1.4	10.02	38.5	-28.4			
836.50	21.63	H	1.1	-1.4	19.14	38.5	-19.3			
High Ch										
846.50	10.88	V	1.1	-1.3	8.50	38.5	-30.0			
846.50	21.64	H	1.1	-1.3	19.26	38.5	-19.2			
Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm										
LTE Band 5 5MHz 16QAM	Company:		Samsung							
	Project #:		4787821324							
	Date:		01-19-17							
	Test Engineer:		JH Park							
	Configuration:		EUT ONLY, X Position							
	Mode:		LTE5 5MHz FUND 16QAM							
	Test Equipment:									
	Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT)									
	Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes	
	Low Ch									
	826.50	13.59	V	1.1	-1.5	10.99	38.5	-27.5		
	826.50	22.04	H	1.1	-1.5	19.44	38.5	-19.0		
	Mid Ch									
	836.50	12.51	V	1.1	-1.4	10.02	38.5	-28.4		
836.50	21.63	H	1.1	-1.4	19.14	38.5	-19.3			
High Ch										
846.50	10.88	V	1.1	-1.3	8.50	38.5	-30.0			
846.50	21.64	H	1.1	-1.3	19.26	38.5	-19.2			
Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm										

		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2							
LTE Band 5 3MHz QPSK	Company: Samsung Project #: 4787821324 Date: 01-19-17 Test Engineer: JH Park Configuration: EUT ONLY, X Position Mode: LTE5 3MHz FUND QPSK								
	Test Equipment: Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	825.50	13.29	V	1.1	-1.5	10.69	38.5	-27.8	
	825.50	23.13	H	1.1	-1.5	20.53	38.5	-17.9	
	Mid Ch								
	836.50	13.54	V	1.1	-1.4	11.05	38.5	-27.4	
	836.50	22.75	H	1.1	-1.4	20.26	38.5	-18.2	
	High Ch								
847.50	11.60	V	1.6	-1.3	8.72	38.5	-29.7		
847.50	22.72	H	1.6	-1.3	19.84	38.5	-18.6		
Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm									
LTE Band 5 3MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-19-17 Test Engineer: JH Park Configuration: EUT ONLY, X Position Mode: LTE5 3MHz FUND 16QAM								
	Test Equipment: Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	825.50	12.22	V	1.1	-1.5	9.62	38.5	-28.8	
	825.50	22.06	H	1.1	-1.5	19.46	38.5	-19.0	
	Mid Ch								
	836.50	12.52	V	1.1	-1.4	10.03	38.5	-28.4	
	836.50	21.68	H	1.1	-1.4	19.19	38.5	-19.3	
	High Ch								
847.50	10.57	V	1.1	-1.3	8.19	38.5	-30.3		
847.50	21.68	H	1.1	-1.3	19.30	38.5	-19.2		
Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm									

		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2							
LTE Band 5 1.4MHz QPSK	Company: Samsung Project #: 4787821324 Date: 01-19-17 Test Engineer: JH Park Configuration: EUT ONLY, X Position Mode: LTE5 1.4MHz FUND QPSK								
	Test Equipment: Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	824.70	9.54	V	1.1	-1.5	6.94	38.5	-31.5	
	824.70	21.07	H	1.1	-1.5	18.47	38.5	-20.0	
	Mid Ch								
	836.50	11.07	V	1.1	-1.4	8.58	38.5	-29.9	
	836.50	20.60	H	1.1	-1.4	18.11	38.5	-20.3	
	High Ch								
	848.30	10.59	V	1.6	-1.3	7.71	38.5	-30.7	
	848.30	20.45	H	1.6	-1.3	17.57	38.5	-20.9	
		Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm							
LTE Band 5 1.4MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-19-17 Test Engineer: JH Park Configuration: EUT ONLY, X Position Mode: LTE5 1.4MHz FUND 16QAM								
	Test Equipment: Receiving: VULB9163-749, and 3m Chamber N-type Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00164753, 3m SMA Cable Warehouse.								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	824.70	8.62	V	1.1	-1.5	6.02	38.5	-32.4	
	824.70	20.01	H	1.1	-1.5	17.41	38.5	-21.0	
	Mid Ch								
	836.50	10.01	V	1.1	-1.4	7.52	38.5	-30.9	
	836.50	19.59	H	1.1	-1.4	17.10	38.5	-21.4	
	High Ch								
	848.30	9.52	V	1.1	-1.3	7.14	38.5	-31.3	
	848.30	19.45	H	1.1	-1.3	17.07	38.5	-21.4	
		Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm							

LTE Band 41

		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2							
LTE Band 41 20MHz QPSK	Company:		Samsung						
	Project #:		4787821324						
	Date:		01-20-17						
	Test Engineer:		YH Lim						
	Configuration:		EUT / X-Position						
	Mode:		LTE Band 41, QPSK, 20MHz						
	Test Equipment:								
	Receiving:		3117[00168724] and Chamber 1 SMA Cables						
	Substitution:		3115[00161451] Substitution, 3m SMA Cable Warehouse						
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	2565.00	5.72	V	1.9	9.1	12.98	33.0	-20.0	
	2565.00	8.18	H	1.9	9.1	15.44	33.0	-17.6	
	Mid Ch								
2605.00	8.36	V	1.9	10.4	16.85	33.0	-16.2		
2605.00	8.69	H	1.9	10.4	17.18	33.0	-15.8		
High Ch									
2645.00	7.44	V	1.9	10.3	15.88	33.0	-17.1		
2645.00	8.47	H	1.9	10.3	16.91	33.0	-16.1		
Rev. 3.17.11		Note: For Band 4 EIRP limit is 30dBm							
LTE Band 41 20MHz 16QAM	Company:		Samsung						
	Project #:		4787821324						
	Date:		01-20-17						
	Test Engineer:		YH Lim						
	Configuration:		EUT / X-Position						
	Mode:		LTE Band 41, 16QAM, 20MHz						
	Test Equipment:								
	Receiving:		3117[00168724] and Chamber 1 SMA Cables						
	Substitution:		3115[00161451] Substitution, 3m SMA Cable Warehouse						
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
	Low Ch								
	2565.00	4.00	V	1.9	9.1	11.26	33.0	-21.7	
	2565.00	6.90	H	1.9	9.1	14.16	33.0	-18.8	
	Mid Ch								
2605.00	6.82	V	1.9	10.4	15.31	33.0	-17.7		
2605.00	7.11	H	1.9	10.4	15.60	33.0	-17.4		
High Ch									
2645.00	6.08	V	1.9	10.3	14.52	33.0	-18.5		
2645.00	6.98	H	1.9	10.3	15.42	33.0	-17.6		
Rev. 3.17.11		Note: For Band 4 EIRP limit is 30dBm							

		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2							
LTE Band 41 15MHz QPSK	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: YH Lim Configuration: EUT / X-Position Mode: LTE Band 41, QPSK, 15MHz								
	Test Equipment: Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Margin	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	2562.50	5.99	V	1.9	9.1	13.25	33.0	-19.8	
	2562.50	7.74	H	1.9	9.1	15.00	33.0	-18.0	
	Mid Ch								
	2605.00	8.07	V	1.9	10.4	16.56	33.0	-16.4	
	2605.00	5.98	H	1.9	10.4	14.47	33.0	-18.5	
	High Ch								
	2647.50	7.04	V	1.9	10.3	15.48	33.0	-17.5	
	2647.50	7.45	H	1.9	10.3	15.89	33.0	-17.1	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm									
LTE Band 41 15MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: YH Lim Configuration: EUT / X-Position Mode: LTE Band 41, 16QAM, 15MHz								
	Test Equipment: Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Margin	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	2562.50	4.43	V	1.9	9.1	11.69	33.0	-21.3	
	2562.50	6.17	H	1.9	9.1	13.43	33.0	-19.6	
	Mid Ch								
	2605.00	6.72	V	1.9	10.4	15.21	33.0	-17.8	
	2605.00	4.38	H	1.9	10.4	12.87	33.0	-20.1	
	High Ch								
	2647.50	5.39	V	1.9	10.3	13.83	33.0	-19.2	
	2647.50	5.97	H	1.9	10.3	14.41	33.0	-18.6	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm									

High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2										
LTE Band 41 10MHz QPSK	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: YH Lim Configuration: EUT / X-Position Mode: LTE Band 41, QPSK, 10MHz Test Equipment: Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes	
	Low Ch									
	2560.00	7.60	V	1.9	9.1	14.86	33.0	-18.1		
	2560.00	8.48	H	1.9	9.1	15.74	33.0	-17.3		
	Mid Ch									
	2605.00	6.27	V	1.9	10.4	14.76	33.0	-18.2		
	2605.00	5.89	H	1.9	10.4	14.38	33.0	-18.6		
	High Ch									
	2650.00	7.77	V	1.9	10.3	16.21	33.0	-16.8		
	2650.00	7.25	H	1.9	10.3	15.69	33.0	-17.3		
	Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm									
	LTE Band 41 10MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: YH Lim Configuration: EUT / X-Position Mode: LTE Band 41 16QAM, 10MHz Test Equipment: Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse								
		f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
		Low Ch								
2560.00		5.87	V	1.9	9.1	13.13	33.0	-19.9		
2560.00		6.87	H	1.9	9.1	14.13	33.0	-18.9		
Mid Ch										
2605.00		4.69	V	1.9	10.4	13.18	33.0	-19.8		
2605.00		4.62	H	1.9	10.4	13.11	33.0	-19.9		
High Ch										
2650.00		6.23	V	1.9	10.3	14.67	33.0	-18.3		
2650.00		5.66	H	1.9	10.3	14.10	33.0	-18.9		
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm										

		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2								
LTE Band 41 5MHz QPSK	Company:	Samsung								
	Project #:	4787821324								
	Date:	01-20-17								
	Test Engineer:	YH Lim								
	Configuration:	EUT / X-Position								
	Mode:	LTE Band 41, QPSK , 5MHz								
	Test Equipment:		Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse							
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes	
	Low Ch									
	2557.50	9.16	V	1.9	9.1	16.42	33.0	-16.6		
	2557.50	9.61	H	1.9	9.1	16.87	33.0	-16.1		
	Mid Ch									
	2605.00	5.04	V	1.9	10.4	13.53	33.0	-19.5		
2605.00	5.62	H	1.9	10.4	14.11	33.0	-18.9			
High Ch										
2652.50	6.27	V	1.9	10.3	14.71	33.0	-18.3			
2652.50	7.23	H	1.9	10.3	15.67	33.0	-17.3			
Rev. 3.17.11		Note: For Band 4 EIRP limit is 30dBm								
		High Frequency Substitution Measurement UL Korea, Ltd. Suwon Laboratory Chamber 2								
LTE Band 41 5MHz 16QAM	Company:	Samsung								
	Project #:	4787821324								
	Date:	01-20-17								
	Test Engineer:	YH Lim								
	Configuration:	EUT / X-Position								
	Mode:	LTE Band 41 16QAM, 5MHz								
	Test Equipment:		Receiving: 3117[00168724] and Chamber 1 SMA Cables Substitution: 3115[00161451] Substitution, 3m SMA Cable Warehouse							
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes	
	Low Ch									
	2557.50	8.52	V	1.9	9.1	15.78	33.0	-17.2		
	2557.50	8.06	H	1.9	9.1	15.32	33.0	-17.7		
	Mid Ch									
	2605.00	4.38	V	1.9	10.4	12.87	33.0	-20.1		
2605.00	4.15	H	1.9	10.4	12.64	33.0	-20.4			
High Ch										
2652.50	5.10	V	1.9	10.3	13.54	33.0	-19.5			
2652.50	6.09	H	1.9	10.3	14.53	33.0	-18.5			
Rev. 3.17.11		Note: For Band 4 EIRP limit is 30dBm								

11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238 and §27. 53

LIMIT

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

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

TEST PROCEDURE

ANSI / TIA / EIA 603D Clause 2.2.12; ESU40 setting reference to 971168 D01 v02r02

For peak power measurement with a ESU40:

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

RESULTS

11.2.1. SPURIOUS RADIATION PLOTS

GSM 850

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
GSM GSM850 GPRS	Company: Samsung		Project #: 4787821324								Date: 02-20-17	
	Test Engineer: Chan Park		Configuration: EUT / AC Adapter / Earphone, X Position								Mode: GPRS 850 MHz	
	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 Ch, 824.2MHz											
	1.6484	-6.0	V	3.0	38.2	1.0	-43.3	-13.0	-30.3			
	2.4726	-5.8	V	3.0	38.8	1.0	-43.6	-13.0	-30.6			
	3.2968	-19.9	V	3.0	39.4	1.0	-58.3	-13.0	-45.3			
	1.6484	-4.5	H	3.0	38.2	1.0	-41.7	-13.0	-28.7			
	2.4726	-6.1	H	3.0	38.8	1.0	-43.9	-13.0	-30.9			
	3.2968	-20.2	H	3.0	39.4	1.0	-58.6	-13.0	-45.6			
	Mid Ch, 836.6MHz											
	1.6730	-4.9	V	3.0	38.2	1.0	-42.2	-13.0	-29.2			
	2.5098	-2.2	V	3.0	38.8	1.0	-40.0	-13.0	-27.0			
3.3464	-18.1	V	3.0	39.5	1.0	-56.6	-13.0	-43.6				
1.6730	-3.6	H	3.0	38.2	1.0	-40.8	-13.0	-27.8				
2.5098	-4.5	H	3.0	38.8	1.0	-42.3	-13.0	-29.3				
3.3464	-20.1	H	3.0	39.5	1.0	-58.6	-13.0	-45.6				
High Ch, 848.8MHz												
1.6976	-7.8	V	3.0	38.2	1.0	-45.0	-13.0	-32.0				
2.5466	-5.8	V	3.0	38.9	1.0	-43.7	-13.0	-30.7				
3.3952	-19.8	V	3.0	39.5	1.0	-58.3	-13.0	-45.3				
1.6976	-1.8	H	3.0	38.2	1.0	-39.0	-13.0	-26.0				
2.5466	-1.4	H	3.0	38.9	1.0	-39.2	-13.0	-26.2				
3.3952	-19.9	H	3.0	39.5	1.0	-58.4	-13.0	-45.4				
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.												
GSM GSM850 EGPRS	Company: Samsung		Project #: 4787821324								Date: 02-20-17	
	Test Engineer: Chan Park		Configuration: EUT / AC Adapter / Earphone, X Position								Mode: EGPRS 850 MHz	
	Chamber		Pre-amplifier		Filter		Limit					
	Chamber 1		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 Ch, 824.2MHz											
	1.6484	-16.0	V	3.0	38.2	1.0	-53.2	-13.0	-40.2			
	2.4726	-16.3	V	3.0	38.8	1.0	-54.1	-13.0	-41.1			
	3.2968	-20.2	V	3.0	39.4	1.0	-58.6	-13.0	-45.6			
	1.6484	-14.6	H	3.0	38.2	1.0	-51.9	-13.0	-38.9			
	2.4726	-15.7	H	3.0	38.8	1.0	-53.5	-13.0	-40.5			
	3.2968	-20.4	H	3.0	39.4	1.0	-58.9	-13.0	-45.9			
	Mid Ch, 836.6MHz											
	1.6730	-15.1	V	3.0	38.2	1.0	-52.3	-13.0	-39.3			
	2.5098	-12.1	V	3.0	38.8	1.0	-50.0	-13.0	-37.0			
3.3464	-19.2	V	3.0	39.5	1.0	-57.7	-13.0	-44.7				
1.6730	-13.7	H	3.0	38.2	1.0	-50.9	-13.0	-37.9				
2.5098	-14.0	H	3.0	38.8	1.0	-51.9	-13.0	-38.9				
3.3464	-20.4	H	3.0	39.5	1.0	-58.8	-13.0	-45.8				
High Ch, 848.8MHz												
1.6976	-17.2	V	3.0	38.2	1.0	-54.4	-13.0	-41.4				
2.5466	-15.3	V	3.0	38.9	1.0	-53.2	-13.0	-40.2				
3.3952	-20.2	V	3.0	39.5	1.0	-58.7	-13.0	-45.7				
1.6976	-11.3	H	3.0	38.2	1.0	-48.6	-13.0	-35.6				
2.5466	-11.7	H	3.0	38.9	1.0	-49.6	-13.0	-36.6				
3.3952	-20.1	H	3.0	39.5	1.0	-58.6	-13.0	-45.6				
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.												

GSM 1900

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement								
GSM GSM1900 GPRS		Company: Samsung								
		Project #: 4787821324								
		Date: 01-20-17								
		Test Engineer: Chan Park								
		Configuration: EUT / AC Adapter / Earphone, X Position								
		Mode: GPRS 1900 MHz								
		Chamber	Pre-amplifier	Filter	Limit					
		Chamber 2	AFS42	Filter 1	Part 24					
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 1850.2MHz										
3.7004	-12.4	V	3.0	39.7	1.0	-51.0	-13.0	-38.0		
5.5506	-0.4	V	3.0	39.9	1.0	-39.3	-13.0	-26.3		
7.4008	-8.8	V	3.0	39.4	1.0	-47.2	-13.0	-34.2		
3.7000	-15.6	H	3.0	39.7	1.0	-54.3	-13.0	-41.3		
5.5500	-7.4	H	3.0	39.9	1.0	-46.3	-13.0	-33.3		
7.4000	-10.0	H	3.0	39.4	1.0	-48.5	-13.0	-35.5		
Mid Ch, 1880.0MHz										
3.7600	-6.9	V	3.0	39.7	1.0	-45.6	-13.0	-32.6		
5.6400	-5.4	V	3.0	40.0	1.0	-44.3	-13.0	-31.3		
7.5200	-5.9	V	3.0	39.4	1.0	-44.2	-13.0	-31.2		
3.7600	-9.5	H	3.0	39.7	1.0	-48.2	-13.0	-35.2		
5.6400	-4.9	H	3.0	40.0	1.0	-43.9	-13.0	-30.9		
7.5200	-10.9	H	3.0	39.4	1.0	-49.3	-13.0	-36.3		
High Ch, 1909.8 MHz										
3.8196	-7.4	V	3.0	39.7	1.0	-46.1	-13.0	-33.1		
5.7294	-4.3	V	3.0	40.0	1.0	-43.3	-13.0	-30.3		
7.6392	-3.2	V	3.0	39.3	1.0	-41.5	-13.0	-28.5		
3.8196	-6.5	H	3.0	39.7	1.0	-45.2	-13.0	-32.2		
5.7294	-7.4	H	3.0	40.0	1.0	-46.3	-13.0	-33.3		
7.6392	-6.9	H	3.0	39.3	1.0	-45.2	-13.0	-32.2		
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
GSM GSM1900 EGPRS		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung								
		Project #: 4787821324								
		Date: 01-20-17								
		Test Engineer: Chan Park								
		Configuration: EUT / AC Adapter / Earphone, X Position								
		Mode: EGPRS 1900 MHz								
		Chamber	Pre-amplifier	Filter	Limit					
		Chamber 2	AFS42	Filter 1	Part 24					
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 1850.2MHz										
3.7004	-9.9	V	3.0	39.7	1.0	-48.6	-13.0	-35.6		
5.5506	-5.0	V	3.0	39.9	1.0	-43.9	-13.0	-30.9		
7.4008	-10.0	V	3.0	39.4	1.0	-48.4	-13.0	-35.4		
3.7000	-13.9	H	3.0	39.7	1.0	-52.6	-13.0	-39.6		
5.5500	-12.7	H	3.0	39.9	1.0	-51.7	-13.0	-38.7		
7.4000	-13.4	H	3.0	39.4	1.0	-51.8	-13.0	-38.8		
Mid Ch, 1880.0MHz										
3.7600	-8.4	V	3.0	39.7	1.0	-48.1	-13.0	-35.1		
5.6400	-10.0	V	3.0	40.0	1.0	-49.0	-13.0	-36.0		
7.5200	-9.3	V	3.0	39.4	1.0	-47.6	-13.0	-34.6		
3.7600	-16.8	H	3.0	39.7	1.0	-55.5	-13.0	-42.5		
5.6400	-9.2	H	3.0	40.0	1.0	-48.2	-13.0	-35.2		
7.5200	-14.7	H	3.0	39.4	1.0	-53.0	-13.0	-40.0		
High Ch, 1909.8 MHz										
3.8196	-10.1	V	3.0	39.7	1.0	-48.8	-13.0	-35.8		
5.7294	-7.4	V	3.0	40.0	1.0	-46.4	-13.0	-33.4		
7.6392	-5.7	V	3.0	39.3	1.0	-44.0	-13.0	-31.0		
3.8196	-13.2	H	3.0	39.7	1.0	-52.0	-13.0	-39.0		
5.7294	-10.1	H	3.0	40.0	1.0	-49.1	-13.0	-36.1		
7.6392	-11.6	H	3.0	39.3	1.0	-49.9	-13.0	-36.9		
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

WCDMA Band 5

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
WCDMA Band 5 REL99	Company: Samsung Project #: 4787821324 Date: 01-16-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone / X Position Mode: Tx, REL99,850MHz		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 Ch, 826.40MHz										
		1.6520	-18.5	V	3.0	38.2	1.0	-55.7	-13.0	-42.7		
		2.4790	-21.8	V	3.0	38.8	1.0	-59.6	-13.0	-46.6		
		3.3056	-20.2	V	3.0	39.4	1.0	-58.7	-13.0	-45.7		
		1.6520	-18.4	H	3.0	38.2	1.0	-55.6	-13.0	-42.6		
		2.4790	-22.3	H	3.0	38.8	1.0	-60.1	-13.0	-47.1		
		3.3056	-20.3	H	3.0	39.4	1.0	-58.7	-13.0	-45.7		
		Mid Ch, 836.6MHz										
		1.6732	-20.5	V	3.0	38.2	1.0	-57.7	-13.0	-44.7		
		2.5098	-21.6	V	3.0	38.8	1.0	-59.5	-13.0	-46.5		
		3.3464	-20.3	V	3.0	39.5	1.0	-58.7	-13.0	-45.7		
		1.6732	-21.3	H	3.0	38.2	1.0	-58.5	-13.0	-45.5		
		2.5098	-22.2	H	3.0	38.8	1.0	-60.0	-13.0	-47.0		
	3.3464	-20.4	H	3.0	39.5	1.0	-58.8	-13.0	-45.8			
	High Ch, 846.6MHz											
	1.6932	-16.5	V	3.0	38.2	1.0	-53.8	-13.0	-40.8			
	2.5390	-21.4	V	3.0	38.9	1.0	-59.3	-13.0	-46.3			
	3.3860	-20.4	V	3.0	39.5	1.0	-58.9	-13.0	-45.9			
	1.6932	-14.9	H	3.0	38.2	1.0	-52.1	-13.0	-39.1			
	2.5390	-22.0	H	3.0	38.9	1.0	-59.8	-13.0	-46.8			
	3.3860	-20.4	H	3.0	39.5	1.0	-58.9	-13.0	-45.9			
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											
WCDMA Band 5 HSDPA	Company: Samsung Project #: 4787821324 Date: 01-16-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone / X Position Mode: Tx, HSDPA,850MHz		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 Ch, 826.40MHz										
		1.6520	-19.1	V	3.0	38.2	1.0	-56.3	-13.0	-43.3		
		2.4790	-21.8	V	3.0	38.8	1.0	-59.7	-13.0	-46.7		
		3.3056	-20.2	V	3.0	39.4	1.0	-58.6	-13.0	-45.6		
		1.6520	-19.7	H	3.0	38.2	1.0	-56.9	-13.0	-43.9		
		2.4790	-22.4	H	3.0	38.8	1.0	-60.2	-13.0	-47.2		
		3.3056	-20.3	H	3.0	39.4	1.0	-58.7	-13.0	-45.7		
		Mid Ch, 836.6MHz										
		1.6732	-21.5	V	3.0	38.2	1.0	-58.7	-13.0	-45.7		
		2.5098	-21.5	V	3.0	38.8	1.0	-59.4	-13.0	-46.4		
		3.3464	-20.4	V	3.0	39.5	1.0	-58.8	-13.0	-45.8		
		1.6732	-21.9	H	3.0	38.2	1.0	-59.2	-13.0	-46.2		
		2.5098	-22.3	H	3.0	38.8	1.0	-60.1	-13.0	-47.1		
	3.3464	-20.5	H	3.0	39.5	1.0	-58.9	-13.0	-45.9			
	High Ch, 846.6MHz											
	1.6932	-18.3	V	3.0	38.2	1.0	-55.6	-13.0	-42.6			
	2.5390	-21.3	V	3.0	38.9	1.0	-59.2	-13.0	-46.2			
	3.3860	-20.4	V	3.0	39.5	1.0	-58.9	-13.0	-45.9			
	1.6932	-17.0	H	3.0	38.2	1.0	-54.2	-13.0	-41.2			
	2.5390	-21.9	H	3.0	38.9	1.0	-59.8	-13.0	-46.8			
	3.3860	-20.4	H	3.0	39.5	1.0	-58.8	-13.0	-45.8			
	Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											

WCDMA Band 2

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement										
WCDMA Band 2 REL99	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone / X Position Mode: Tx, REL99,1900MHz		Chamber Chamber 2		Pre-amplifier AFS42		Filter Filter 1		Limit Part 24			
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
	Low Ch, 1852.4MHz											
	3.7048	-8.7	V	3.0	39.7	1.0	-47.3	-13.0	-34.3			
	5.5572	-10.7	V	3.0	39.9	1.0	-49.6	-13.0	-36.6			
	7.4096	-4.8	V	3.0	39.4	1.0	-43.3	-13.0	-30.3			
	3.7048	-10.2	H	3.0	39.7	1.0	-48.9	-13.0	-35.9			
	5.5572	-14.6	H	3.0	39.9	1.0	-53.6	-13.0	-40.6			
	7.4096	-9.1	H	3.0	39.4	1.0	-47.5	-13.0	-34.5			
	Mid Ch, 1880MHz											
	3.7600	-6.8	V	3.0	39.7	1.0	-45.5	-13.0	-32.5			
	5.6400	-9.3	V	3.0	40.0	1.0	-48.2	-13.0	-35.2			
	7.5200	-4.9	V	3.0	39.4	1.0	-43.2	-13.0	-30.2			
	3.7600	-7.0	H	3.0	39.7	1.0	-45.6	-13.0	-32.6			
	5.6400	-14.3	H	3.0	40.0	1.0	-53.3	-13.0	-40.3			
7.5200	-9.0	H	3.0	39.4	1.0	-47.4	-13.0	-34.4				
High Ch, 1907.6MHz												
3.8152	-6.4	V	3.0	39.7	1.0	-45.1	-13.0	-32.1				
5.7228	-9.3	V	3.0	40.0	1.0	-48.3	-13.0	-35.3				
7.6304	-5.5	V	3.0	39.3	1.0	-43.9	-13.0	-30.9				
3.8152	-7.8	H	3.0	39.7	1.0	-46.5	-13.0	-33.5				
5.7228	-11.8	H	3.0	40.0	1.0	-50.8	-13.0	-37.8				
7.6304	-8.6	H	3.0	39.3	1.0	-46.9	-13.0	-33.9				
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.												
WCDMA Band 2 HSDPA	Company: Samsung Project #: 4787821324 Date: 01-20-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone / X Position Mode: Tx, HSDPA,1900MHz		Chamber Chamber 2		Pre-amplifier AFS42		Filter Filter 1		Limit Part 24			
	f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes		
	Low Ch, 1852.4MHz											
	3.7048	-10.1	V	3.0	39.7	1.0	-48.8	-13.0	-35.8			
	5.5572	-12.4	V	3.0	39.9	1.0	-51.4	-13.0	-38.4			
	7.4096	-6.3	V	3.0	39.4	1.0	-44.7	-13.0	-31.7			
	3.7048	-11.7	H	3.0	39.7	1.0	-50.3	-13.0	-37.3			
	5.5572	-15.4	H	3.0	39.9	1.0	-54.3	-13.0	-41.3			
	7.4096	-10.8	H	3.0	39.4	1.0	-49.2	-13.0	-36.2			
	Mid Ch, 1880MHz											
	3.7600	-8.2	V	3.0	39.7	1.0	-46.9	-13.0	-33.9			
	5.6400	-11.2	V	3.0	40.0	1.0	-50.2	-13.0	-37.2			
	7.5200	-6.8	V	3.0	39.4	1.0	-45.2	-13.0	-32.2			
	3.7600	-8.1	H	3.0	39.7	1.0	-46.8	-13.0	-33.8			
	5.6400	-15.9	H	3.0	40.0	1.0	-54.9	-13.0	-41.9			
7.5200	-10.1	H	3.0	39.4	1.0	-48.5	-13.0	-35.5				
High Ch, 1907.6MHz												
3.8152	-8.4	V	3.0	39.7	1.0	-47.1	-13.0	-34.1				
5.7228	-10.8	V	3.0	40.0	1.0	-49.8	-13.0	-36.8				
7.6304	-7.5	V	3.0	39.3	1.0	-45.9	-13.0	-32.9				
3.8152	-9.7	H	3.0	39.7	1.0	-48.5	-13.0	-35.5				
5.7228	-13.5	H	3.0	40.0	1.0	-52.5	-13.0	-39.5				
7.6304	-10.8	H	3.0	39.3	1.0	-49.1	-13.0	-36.1				
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.												

LTE Band 5

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement									
LTE Band 5 10MHz QPSK	Company: Samsung Project #: 4787821324 Date: 01-18-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 10MHz 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 (829MHz)										
	1.6580	-2.3	V	3.0	38.2	1.0	-39.5	-13.0	-26.5		
	2.4870	-21.7	V	3.0	38.8	1.0	-59.6	-13.0	-46.6		
	3.3160	-21.4	V	3.0	39.4	1.0	-59.9	-13.0	-46.9		
	1.6580	-9.6	H	3.0	38.2	1.0	-46.8	-13.0	-33.8		
	2.4870	-21.3	H	3.0	38.8	1.0	-59.1	-13.0	-46.1		
	3.3160	-21.3	H	3.0	39.4	1.0	-59.7	-13.0	-46.7		
	Mid Channel (836.5MHz)										
1.6730	-2.1	V	3.0	38.2	1.0	-39.3	-13.0	-26.3			
2.5090	-21.3	V	3.0	38.8	1.0	-59.1	-13.0	-46.1			
3.3460	-22.1	V	3.0	39.5	1.0	-60.5	-13.0	-47.5			
1.6730	-12.2	H	3.0	38.2	1.0	-49.5	-13.0	-36.5			
2.5090	-21.7	H	3.0	38.8	1.0	-59.5	-13.0	-46.5			
3.3460	-21.9	H	3.0	39.5	1.0	-60.4	-13.0	-47.4			
High Channel (844MHz)											
1.6880	-2.8	V	3.0	38.2	1.0	-40.0	-13.0	-27.0			
2.5320	-20.9	V	3.0	38.9	1.0	-58.7	-13.0	-45.7			
3.3760	-20.6	V	3.0	39.5	1.0	-59.0	-13.0	-46.0			
1.6880	-8.0	H	3.0	38.2	1.0	-45.2	-13.0	-32.2			
2.5320	-20.7	H	3.0	38.9	1.0	-58.6	-13.0	-45.6			
3.3760	-20.4	H	3.0	39.5	1.0	-58.9	-13.0	-45.9			
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.											
LTE Band 5 10MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-18-17 Test Engineer: Chan Park Configuration: EUT / AC Adapter / Earphone, X Position Mode: TX, LTE BAND 5, 10MHz 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 (829MHz)										
	1.6580	-2.1	V	3.0	38.2	1.0	-39.3	-13.0	-26.3		
	2.4870	-22.0	V	3.0	38.8	1.0	-59.8	-13.0	-46.8		
	3.3160	-21.4	V	3.0	39.4	1.0	-59.8	-13.0	-46.8		
	1.6580	-9.5	H	3.0	38.2	1.0	-46.8	-13.0	-33.8		
	2.4870	-21.6	H	3.0	38.8	1.0	-59.4	-13.0	-46.4		
	3.3160	-21.5	H	3.0	39.4	1.0	-59.9	-13.0	-46.9		
	Mid Channel (836.5MHz)										
1.6730	-2.0	V	3.0	38.2	1.0	-39.2	-13.0	-26.2			
2.5090	-20.1	V	3.0	38.8	1.0	-57.9	-13.0	-44.9			
3.3460	-21.7	V	3.0	39.5	1.0	-60.1	-13.0	-47.1			
1.6730	-12.5	H	3.0	38.2	1.0	-49.7	-13.0	-36.7			
2.5090	-21.5	H	3.0	38.8	1.0	-59.3	-13.0	-46.3			
3.3460	-22.0	H	3.0	39.5	1.0	-60.5	-13.0	-47.5			
High Channel (844MHz)											
1.6880	-2.2	V	3.0	38.2	1.0	-39.4	-13.0	-26.4			
2.5320	-20.8	V	3.0	38.9	1.0	-58.7	-13.0	-45.7			
3.3760	-20.5	V	3.0	39.5	1.0	-59.0	-13.0	-46.0			
1.6880	-8.6	H	3.0	38.2	1.0	-45.8	-13.0	-32.8			
2.5320	-20.7	H	3.0	38.9	1.0	-58.5	-13.0	-45.5			
3.3760	-20.6	H	3.0	39.5	1.0	-59.1	-13.0	-46.1			
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 #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-4.9	V	3.0	38.2	1.0	-42.1	-13.0	-29.1	
			2.4790	-19.3	V	3.0	38.8	1.0	-57.1	-13.0	-44.1	
			3.3060	-21.8	V	3.0	39.4	1.0	-60.2	-13.0	-47.2	
			1.6530	-7.2	H	3.0	38.2	1.0	-44.4	-13.0	-31.4	
			2.4790	-21.5	H	3.0	38.8	1.0	-59.3	-13.0	-46.3	
			3.3060	-21.6	H	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			Mid Channel (836.5MHz)									
		1.6730	-12.2	V	3.0	38.2	1.0	-49.4	-13.0	-36.4		
		2.5090	-19.9	V	3.0	38.8	1.0	-57.7	-13.0	-44.7		
		3.3460	-21.7	V	3.0	39.5	1.0	-60.2	-13.0	-47.2		
		1.6730	-12.3	H	3.0	38.2	1.0	-49.6	-13.0	-36.6		
		2.5090	-20.4	H	3.0	38.8	1.0	-58.3	-13.0	-45.3		
		3.3460	-21.8	H	3.0	39.5	1.0	-60.2	-13.0	-47.2		
		High Channel (846.5MHz)										
		1.6930	-4.0	V	3.0	38.2	1.0	-41.2	-13.0	-28.2		
		2.5390	-20.4	V	3.0	38.9	1.0	-58.3	-13.0	-45.3		
		3.3860	-22.2	V	3.0	39.5	1.0	-60.7	-13.0	-47.7		
		1.6930	-8.4	H	3.0	38.2	1.0	-45.7	-13.0	-32.7		
		2.5390	-21.1	H	3.0	38.9	1.0	-59.0	-13.0	-46.0		
		3.3860	-22.4	H	3.0	39.5	1.0	-60.9	-13.0	-47.9		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 5 5MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-4.7	V	3.0	38.2	1.0	-42.0	-13.0	-29.0	
			2.4790	-19.2	V	3.0	38.8	1.0	-57.0	-13.0	-44.0	
			3.3060	-21.7	V	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			1.6530	-7.3	H	3.0	38.2	1.0	-44.5	-13.0	-31.5	
			2.4790	-22.0	H	3.0	38.8	1.0	-59.8	-13.0	-46.8	
			3.3060	-22.1	H	3.0	39.4	1.0	-60.5	-13.0	-47.5	
			Mid Channel (836.5MHz)									
		1.6730	-12.1	V	3.0	38.2	1.0	-49.3	-13.0	-36.3		
		2.5090	-20.2	V	3.0	38.8	1.0	-58.1	-13.0	-45.1		
		3.3460	-21.7	V	3.0	39.5	1.0	-60.2	-13.0	-47.2		
		1.6730	-11.6	H	3.0	38.2	1.0	-48.8	-13.0	-35.8		
		2.5090	-19.9	H	3.0	38.8	1.0	-57.8	-13.0	-44.8		
		3.3460	-21.8	H	3.0	39.5	1.0	-60.3	-13.0	-47.3		
		High Channel (846.5MHz)										
		1.6930	-3.6	V	3.0	38.2	1.0	-40.9	-13.0	-27.9		
		2.5390	-20.3	V	3.0	38.9	1.0	-58.2	-13.0	-45.2		
		3.3860	-22.3	V	3.0	39.5	1.0	-60.7	-13.0	-47.7		
		1.6930	-8.4	H	3.0	38.2	1.0	-45.7	-13.0	-32.7		
		2.5390	-21.0	H	3.0	38.9	1.0	-58.9	-13.0	-45.9		
		3.3860	-22.4	H	3.0	39.5	1.0	-60.8	-13.0	-47.8		
		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 #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-3.0	V	3.0	38.2	1.0	-40.3	-13.0	-27.3	
			2.4765	-19.7	V	3.0	38.8	1.0	-57.5	-13.0	-44.5	
			3.3020	-21.7	V	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			1.6510	-6.5	H	3.0	38.2	1.0	-43.7	-13.0	-30.7	
			2.4765	-21.7	H	3.0	38.8	1.0	-59.5	-13.0	-46.5	
			3.3020	-21.7	H	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			Mid Channel (836.5MHz)									
		1.6730	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8		
		2.5090	-20.2	V	3.0	38.8	1.0	-58.0	-13.0	-45.0		
		3.3460	-21.5	V	3.0	39.5	1.0	-60.0	-13.0	-47.0		
		1.6730	-12.7	H	3.0	38.2	1.0	-49.9	-13.0	-36.9		
		2.5090	-20.2	H	3.0	38.8	1.0	-58.1	-13.0	-45.1		
		3.3460	-21.7	H	3.0	39.5	1.0	-60.1	-13.0	-47.1		
		High Channel (847.5MHz)										
		1.6950	-5.6	V	3.0	38.2	1.0	-42.8	-13.0	-29.8		
		2.5425	-20.0	V	3.0	38.9	1.0	-57.9	-13.0	-44.9		
		3.3900	-22.1	V	3.0	39.5	1.0	-60.6	-13.0	-47.6		
		1.6950	-7.2	H	3.0	38.2	1.0	-44.5	-13.0	-31.5		
		2.5425	-20.7	H	3.0	38.9	1.0	-58.6	-13.0	-45.6		
		3.3900	-22.1	H	3.0	39.5	1.0	-60.6	-13.0	-47.6		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 5 3MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-2.8	V	3.0	38.2	1.0	-40.0	-13.0	-27.0	
			2.4765	-19.5	V	3.0	38.8	1.0	-57.3	-13.0	-44.3	
			3.3020	-21.6	V	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			1.6510	-6.3	H	3.0	38.2	1.0	-43.5	-13.0	-30.5	
			2.4765	-21.6	H	3.0	38.8	1.0	-59.4	-13.0	-46.4	
			3.3020	-21.7	H	3.0	39.4	1.0	-60.1	-13.0	-47.1	
			Mid Channel (836.5MHz)									
		1.6730	-2.5	V	3.0	38.2	1.0	-39.7	-13.0	-26.7		
		2.5090	-20.2	V	3.0	38.8	1.0	-58.1	-13.0	-45.1		
		3.3460	-21.6	V	3.0	39.5	1.0	-60.1	-13.0	-47.1		
		1.6730	-12.4	H	3.0	38.2	1.0	-49.7	-13.0	-36.7		
		2.5090	-19.8	H	3.0	38.8	1.0	-57.6	-13.0	-44.6		
		3.3460	-21.7	H	3.0	39.5	1.0	-60.1	-13.0	-47.1		
		High Channel (847.5MHz)										
		1.6950	-5.5	V	3.0	38.2	1.0	-42.7	-13.0	-29.7		
		2.5425	-19.8	V	3.0	38.9	1.0	-57.7	-13.0	-44.7		
		3.3900	-21.9	V	3.0	39.5	1.0	-60.4	-13.0	-47.4		
		1.6950	-6.9	H	3.0	38.2	1.0	-44.2	-13.0	-31.2		
		2.5425	-20.6	H	3.0	38.9	1.0	-58.4	-13.0	-45.4		
		3.3900	-22.1	H	3.0	39.5	1.0	-60.6	-13.0	-47.6		
		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 #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-0.7	V	3.0	38.2	1.0	-37.9	-13.0	-24.9	
			2.4741	-19.0	V	3.0	38.8	1.0	-56.8	-13.0	-43.8	
			3.2988	-22.3	V	3.0	39.4	1.0	-60.7	-13.0	-47.7	
			1.6494	-6.2	H	3.0	38.2	1.0	-43.5	-13.0	-30.5	
			2.4741	-21.8	H	3.0	38.8	1.0	-59.6	-13.0	-46.6	
			3.2988	-22.3	H	3.0	39.4	1.0	-60.7	-13.0	-47.7	
			Mid Channel (836.5MHz)									
			1.6730	-2.4	V	3.0	38.2	1.0	-39.6	-13.0	-26.6	
			2.5090	-19.9	V	3.0	38.8	1.0	-57.8	-13.0	-44.8	
			3.3460	-21.5	V	3.0	39.5	1.0	-59.9	-13.0	-46.9	
			1.6730	-12.0	H	3.0	38.2	1.0	-49.2	-13.0	-36.2	
			2.5090	-19.5	H	3.0	38.8	1.0	-57.3	-13.0	-44.3	
		3.3460	-21.4	H	3.0	39.5	1.0	-59.9	-13.0	-46.9		
		High Channel (848.3MHz)										
		1.6966	-4.1	V	3.0	38.2	1.0	-41.4	-13.0	-28.4		
		2.5449	-19.5	V	3.0	38.9	1.0	-57.4	-13.0	-44.4		
		3.3932	-21.9	V	3.0	39.5	1.0	-60.4	-13.0	-47.4		
		1.6966	-5.7	H	3.0	38.2	1.0	-43.0	-13.0	-30.0		
		2.5449	-20.7	H	3.0	38.9	1.0	-58.6	-13.0	-45.6		
		3.3932	-21.5	H	3.0	39.5	1.0	-60.0	-13.0	-47.0		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 5 1.4MHz 16QAM	Company: Samsung Project #: 4787821324 Date: 01-18-17 Test Engineer: Chan 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	-0.3	V	3.0	38.2	1.0	-37.5	-13.0	-24.5	
			2.4741	-18.8	V	3.0	38.8	1.0	-56.6	-13.0	-43.6	
			3.2988	-22.2	V	3.0	39.4	1.0	-60.6	-13.0	-47.6	
			1.6494	-5.8	H	3.0	38.2	1.0	-43.0	-13.0	-30.0	
			2.4741	-21.7	H	3.0	38.8	1.0	-59.5	-13.0	-46.5	
			3.2988	-22.4	H	3.0	39.4	1.0	-60.9	-13.0	-47.9	
			Mid Channel (836.5MHz)									
			1.6730	-2.0	V	3.0	38.2	1.0	-39.3	-13.0	-26.3	
			2.5090	-20.1	V	3.0	38.8	1.0	-57.9	-13.0	-44.9	
			3.3460	-21.5	V	3.0	39.5	1.0	-60.0	-13.0	-47.0	
			1.6730	-12.0	H	3.0	38.2	1.0	-49.2	-13.0	-36.2	
			2.5090	-19.6	H	3.0	38.8	1.0	-57.4	-13.0	-44.4	
		3.3460	-21.4	H	3.0	39.5	1.0	-59.8	-13.0	-46.8		
		High Channel (848.3MHz)										
		1.6966	-3.8	V	3.0	38.2	1.0	-41.1	-13.0	-28.1		
		2.5449	-19.2	V	3.0	38.9	1.0	-57.1	-13.0	-44.1		
		3.3932	-21.4	V	3.0	39.5	1.0	-60.9	-13.0	-46.9		
		1.6966	-5.3	H	3.0	38.2	1.0	-42.6	-13.0	-29.6		
		2.5449	-20.5	H	3.0	38.9	1.0	-58.3	-13.0	-45.3		
		3.3932	-21.6	H	3.0	39.5	1.0	-60.0	-13.0	-47.0		
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										

LTE Band 41

		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement								
LTE Band 41 20MHz QPSK		Company: Samsung								
		Project #: 4787821324								
		Date: 01-21-17								
		Test Engineer: YH Lim								
		Configuration: EUT / AC Adapter / Ear Phone / X-Position								
		Mode: TX, LTE BAND 41, 20MHz BW, QPSK								
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> 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, (2565 MHz)										
5.1300	2.4	V	3.0	39.8	1.0	-36.4	-25.0	-11.4		
7.6950	-1.9	V	3.0	39.3	1.0	-40.2	-25.0	-15.2		
10.2600	1.4	V	3.0	38.6	1.0	-36.1	-25.0	-11.1		
5.1300	-0.4	H	3.0	39.8	1.0	-39.3	-25.0	-14.3		
7.6950	-3.7	H	3.0	39.3	1.0	-42.0	-25.0	-17.0		
10.2600	-0.6	H	3.0	38.6	1.0	-38.2	-25.0	-13.2		
Mid Ch, (2605 MHz)										
5.2100	4.4	V	3.0	39.8	1.0	-34.4	-25.0	-9.4		
7.8150	1.8	V	3.0	39.3	1.0	-36.5	-25.0	-11.5		
10.4200	2.7	V	3.0	38.5	1.0	-34.9	-25.0	-9.9		
5.2100	-1.6	H	3.0	39.8	1.0	-40.4	-25.0	-15.4		
7.8150	-3.2	H	3.0	39.3	1.0	-41.4	-25.0	-16.4		
10.4200	-2.4	H	3.0	38.5	1.0	-40.0	-25.0	-15.0		
High Ch, (2645 MHz)										
5.2900	-0.7	V	3.0	39.9	1.0	-39.5	-25.0	-14.5		
7.9350	1.9	V	3.0	39.2	1.0	-36.3	-25.0	-11.3		
10.5800	2.2	V	3.0	38.5	1.0	-35.3	-25.0	-10.3		
5.2900	-5.2	H	3.0	39.9	1.0	-44.0	-25.0	-19.0		
7.9350	0.4	H	3.0	39.2	1.0	-37.8	-25.0	-12.8		
10.5800	-3.0	H	3.0	38.5	1.0	-40.5	-25.0	-15.5		
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.										
LTE Band 41 20MHz 16QAM		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement								
		Company: Samsung								
		Project #: 4787821324								
		Date: 01-21-17								
		Test Engineer: YH Lim								
		Configuration: EUT / AC Adapter / Ear Phone / X-Position								
		Mode: TX, LTE BAND 41, 20MHz BW, 16QAM								
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> 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, (2565 MHz)										
5.1300	0.2	V	3.0	39.8	1.0	-38.6	-25.0	-13.6		
7.6950	-3.2	V	3.0	39.3	1.0	-41.5	-25.0	-16.5		
10.2600	0.6	V	3.0	38.6	1.0	-37.0	-25.0	-12.0		
5.1300	-1.6	H	3.0	39.8	1.0	-40.4	-25.0	-15.4		
7.6950	-4.4	H	3.0	39.3	1.0	-42.7	-25.0	-17.7		
10.2600	-0.9	H	3.0	38.6	1.0	-38.5	-25.0	-13.5		
Mid Ch, (2605 MHz)										
5.2100	3.6	V	3.0	39.8	1.0	-35.2	-25.0	-10.2		
7.8150	1.3	V	3.0	39.3	1.0	-37.0	-25.0	-12.0		
10.4200	2.0	V	3.0	38.5	1.0	-35.6	-25.0	-10.6		
5.2100	-2.3	H	3.0	39.8	1.0	-41.2	-25.0	-16.2		
7.8150	-3.6	H	3.0	39.3	1.0	-41.8	-25.0	-16.8		
10.4200	-1.9	H	3.0	38.5	1.0	-39.4	-25.0	-14.4		
High Ch, (2645 MHz)										
5.2900	-0.9	V	3.0	39.9	1.0	-39.7	-25.0	-14.7		
7.9350	0.3	V	3.0	39.2	1.0	-37.9	-25.0	-12.9		
10.5800	2.3	V	3.0	38.5	1.0	-35.2	-25.0	-10.2		
5.2900	-6.9	H	3.0	39.9	1.0	-45.8	-25.0	-20.8		
7.9350	-0.8	H	3.0	39.2	1.0	-39.0	-25.0	-14.0		
10.5800	-3.2	H	3.0	38.5	1.0	-40.8	-25.0	-15.8		
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 #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 15MHz BW,QPSK									
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, (2562.5 MHz)											
5.1250	2.9	V	3.0	39.8	1.0	-35.9	-25.0	-10.9			
7.6875	-0.9	V	3.0	39.3	1.0	-39.3	-25.0	-14.3			
10.2500	0.8	V	3.0	38.6	1.0	-36.7	-25.0	-11.7			
5.1250	-1.1	H	3.0	39.8	1.0	-39.9	-25.0	-14.9			
7.6875	-4.5	H	3.0	39.3	1.0	-42.8	-25.0	-17.8			
10.2500	0.6	H	3.0	38.6	1.0	-36.9	-25.0	-11.9			
Mid Ch, (2605 MHz)											
5.2100	3.6	V	3.0	39.8	1.0	-35.3	-25.0	-10.3			
7.8150	1.8	V	3.0	39.3	1.0	-36.4	-25.0	-11.4			
10.4200	3.2	V	3.0	38.5	1.0	-34.4	-25.0	-9.4			
5.2100	-0.8	H	3.0	39.8	1.0	-39.6	-25.0	-14.6			
7.8150	-2.3	H	3.0	39.3	1.0	-40.6	-25.0	-15.6			
10.4200	-1.1	H	3.0	38.5	1.0	-38.7	-25.0	-13.7			
High Ch, (2647.5 MHz)											
5.2950	0.0	V	3.0	39.9	1.0	-38.8	-25.0	-13.8			
7.9425	0.9	V	3.0	39.2	1.0	-37.3	-25.0	-12.3			
10.5900	1.6	V	3.0	38.5	1.0	-35.9	-25.0	-10.9			
5.2950	-4.4	H	3.0	39.9	1.0	-43.3	-25.0	-18.3			
7.9425	-1.3	H	3.0	39.2	1.0	-39.5	-25.0	-14.5			
10.5900	-2.7	H	3.0	38.5	1.0	-40.2	-25.0	-15.2			
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 #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 15MHz BW,16QAM									
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, (2562.5 MHz)											
5.1250	0.9	V	3.0	39.8	1.0	-37.9	-25.0	-12.9			
7.6875	-2.5	V	3.0	39.3	1.0	-40.8	-25.0	-15.8			
10.2500	1.0	V	3.0	38.6	1.0	-36.5	-25.0	-11.5			
5.1250	-3.1	H	3.0	39.8	1.0	-41.9	-25.0	-16.9			
7.6875	-5.5	H	3.0	39.3	1.0	-43.8	-25.0	-18.8			
10.2500	0.6	H	3.0	38.6	1.0	-36.9	-25.0	-11.9			
Mid Ch, (2605 MHz)											
5.2100	2.6	V	3.0	39.8	1.0	-36.3	-25.0	-11.3			
7.8150	1.3	V	3.0	39.3	1.0	-37.0	-25.0	-12.0			
10.4200	2.9	V	3.0	38.5	1.0	-34.7	-25.0	-9.6			
5.2100	-2.0	H	3.0	39.8	1.0	-40.8	-25.0	-15.8			
7.8150	-2.1	H	3.0	39.3	1.0	-40.3	-25.0	-15.3			
10.4200	-1.7	H	3.0	38.5	1.0	-39.3	-25.0	-14.3			
High Ch, (2647.5 MHz)											
5.2950	-0.8	V	3.0	39.9	1.0	-39.6	-25.0	-14.6			
7.9425	0.5	V	3.0	39.2	1.0	-37.7	-25.0	-12.7			
10.5900	-3.1	V	3.0	38.5	1.0	-40.7	-25.0	-15.7			
5.2950	-4.7	H	3.0	39.9	1.0	-43.5	-25.0	-18.5			
7.9425	-3.2	H	3.0	39.2	1.0	-41.4	-25.0	-16.4			
10.5900	-3.1	H	3.0	38.5	1.0	-40.6	-25.0	-15.6			
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 #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 10MHz BW, QPSK									
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, (2560 MHz)											
5.1200	1.3	V	3.0	39.8	1.0	-37.5	-25.0	-12.5			
7.6800	-0.8	V	3.0	39.3	1.0	-39.1	-25.0	-14.1			
10.2400	2.2	V	3.0	38.6	1.0	-35.3	-25.0	-10.3			
5.1200	2.3	H	3.0	39.8	1.0	-36.5	-25.0	-11.5			
7.6800	-0.6	H	3.0	39.3	1.0	-38.9	-25.0	-13.9			
10.2400	1.7	H	3.0	38.6	1.0	-35.8	-25.0	-10.8			
Mid Ch, (2605 MHz)											
5.2100	3.1	V	3.0	39.8	1.0	-35.7	-25.0	-10.7			
7.8150	0.9	V	3.0	39.3	1.0	-37.3	-25.0	-12.3			
10.4200	4.0	V	3.0	38.5	1.0	-33.5	-25.0	-8.5			
5.2100	-0.9	H	3.0	39.8	1.0	-39.7	-25.0	-14.7			
7.8150	-2.1	H	3.0	39.3	1.0	-40.3	-25.0	-15.3			
10.4200	-2.2	H	3.0	38.5	1.0	-39.7	-25.0	-14.7			
High Ch, (2650 MHz)											
5.3000	2.4	V	3.0	39.9	1.0	-36.4	-25.0	-11.4			
7.9500	2.7	V	3.0	39.2	1.0	-35.5	-25.0	-10.5			
10.6000	1.1	V	3.0	38.5	1.0	-36.4	-25.0	-11.4			
5.3000	-3.7	H	3.0	39.9	1.0	-42.6	-25.0	-17.6			
7.9500	-0.5	H	3.0	39.2	1.0	-38.7	-25.0	-13.7			
10.6000	-1.8	H	3.0	38.5	1.0	-39.4	-25.0	-14.4			
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: Samsung									
		Project #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 10MHz BW, 16QAM									
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Chamber</div> Chamber 2		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Pre-amplifier</div> AFS42		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Filter</div> Filter 1		<div style="border: 1px solid black; padding: 2px; display: inline-block;">Limit</div> FCC Part 27			
f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes		
Low Ch, (2560 MHz)											
5.1200	0.0	V	3.0	39.8	1.0	-38.8	-25.0	-13.8			
7.6800	-1.1	V	3.0	39.3	1.0	-39.4	-25.0	-14.4			
10.2400	2.3	V	3.0	38.6	1.0	-35.2	-25.0	-10.2			
5.1200	0.3	H	3.0	39.8	1.0	-38.5	-25.0	-13.5			
7.6800	-1.8	H	3.0	39.3	1.0	-40.1	-25.0	-15.1			
10.2400	1.6	H	3.0	38.6	1.0	-35.9	-25.0	-10.9			
Mid Ch, (2605 MHz)											
5.2100	2.1	V	3.0	39.8	1.0	-36.7	-25.0	-11.7			
7.8150	0.7	V	3.0	39.3	1.0	-37.6	-25.0	-12.6			
10.4200	3.9	V	3.0	38.5	1.0	-33.7	-25.0	-8.6			
5.2100	-1.3	H	3.0	39.8	1.0	-40.1	-25.0	-15.1			
7.8150	-2.2	H	3.0	39.3	1.0	-40.4	-25.0	-15.4			
10.4200	-2.0	H	3.0	38.5	1.0	-39.6	-25.0	-14.6			
High Ch, (2650 MHz)											
5.3000	1.3	V	3.0	39.9	1.0	-37.6	-25.0	-12.6			
7.9500	2.2	V	3.0	39.2	1.0	-36.0	-25.0	-11.0			
10.6000	1.0	V	3.0	38.5	1.0	-36.6	-25.0	-11.6			
5.3000	-4.7	H	3.0	39.9	1.0	-43.5	-25.0	-18.5			
7.9500	-0.5	H	3.0	39.2	1.0	-38.7	-25.0	-13.7			
10.6000	-2.0	H	3.0	38.5	1.0	-39.6	-25.0	-14.6			
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 41 5MHz QPSK		Company: Samsung									
		Project #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 5MHz BW, QPSK									
		Chamber: Chamber 2		Pre-amplifier: AFS42		Filter: Filter 1		Limit: FCC Part 27			
		f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, (2557.5 MHz)									
		5.1150	2.0	V	3.0	39.8	1.0	-36.8	-25.0	-11.8	
		7.6725	0.8	V	3.0	39.3	1.0	-37.5	-25.0	-12.5	
		10.2300	1.6	V	3.0	38.6	1.0	-35.9	-25.0	-10.9	
		5.1150	-1.4	H	3.0	39.8	1.0	-40.2	-25.0	-15.2	
		7.6725	-2.9	H	3.0	39.3	1.0	-41.2	-25.0	-16.2	
		10.2300	0.5	H	3.0	38.6	1.0	-37.0	-25.0	-12.0	
		Mid Ch, (2605 MHz)									
		5.2100	2.7	V	3.0	39.8	1.0	-36.2	-25.0	-11.2	
		7.8150	2.1	V	3.0	39.3	1.0	-36.2	-25.0	-11.2	
		10.4200	2.8	V	3.0	38.5	1.0	-34.7	-25.0	-9.7	
		5.2100	-1.8	H	3.0	39.8	1.0	-40.6	-25.0	-15.6	
		7.8150	-2.4	H	3.0	39.3	1.0	-40.6	-25.0	-15.6	
		10.4200	-1.1	H	3.0	38.5	1.0	-38.7	-25.0	-13.7	
		High Ch, (2652.5 MHz)									
		5.1250	1.5	V	3.0	39.8	1.0	-37.3	-25.0	-12.3	
		7.6875	-1.0	V	3.0	39.3	1.0	-39.4	-25.0	-14.4	
		10.2500	0.8	V	3.0	38.6	1.0	-36.8	-25.0	-11.8	
		5.1250	-2.2	H	3.0	39.8	1.0	-41.1	-25.0	-16.1	
		7.6875	-3.9	H	3.0	39.3	1.0	-42.2	-25.0	-17.2	
		10.2500	-3.0	H	3.0	38.6	1.0	-40.5	-25.0	-15.5	
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									
LTE Band 41 5MHz 16QAM		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement									
		Company: Samsung									
		Project #: 4787821324									
		Date: 01-21-17									
		Test Engineer: YH Lim									
		Configuration: EUT / AC Adapter / Ear Phone / X-Position									
		Mode: TX, LTE BAND 41, 5MHz BW, 16QAM									
		Chamber: Chamber 2		Pre-amplifier: AFS42		Filter: Filter 1		Limit: FCC Part 27			
		f GHz	SG reading (dBm)	Ant. Pol. (HV)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
		Low Ch, (2557.5 MHz)									
		5.1150	0.0	V	3.0	39.8	1.0	-38.8	-25.0	-13.8	
		7.6725	0.5	V	3.0	39.3	1.0	-37.9	-25.0	-12.9	
		10.2300	1.0	V	3.0	38.6	1.0	-36.6	-25.0	-11.6	
		5.1150	-2.9	H	3.0	39.8	1.0	-41.7	-25.0	-16.7	
		7.6725	-4.0	H	3.0	39.3	1.0	-42.3	-25.0	-17.3	
		10.2300	0.6	H	3.0	38.6	1.0	-37.0	-25.0	-12.0	
		Mid Ch, (2605 MHz)									
		5.2100	1.3	V	3.0	39.8	1.0	-37.5	-25.0	-12.5	
		7.8150	1.3	V	3.0	39.3	1.0	-37.0	-25.0	-12.0	
		10.4200	2.7	V	3.0	38.5	1.0	-34.8	-25.0	-9.8	
		5.2100	-2.8	H	3.0	39.8	1.0	-41.7	-25.0	-16.7	
		7.8150	-3.4	H	3.0	39.3	1.0	-41.6	-25.0	-16.6	
		10.4200	-1.1	H	3.0	38.5	1.0	-38.6	-25.0	-13.6	
		High Ch, (2652.5 MHz)									
		5.1250	0.2	V	3.0	39.8	1.0	-38.6	-25.0	-13.6	
		7.6875	-3.1	V	3.0	39.3	1.0	-41.4	-25.0	-16.4	
		10.2500	-0.6	V	3.0	38.6	1.0	-38.2	-25.0	-13.2	
		5.1250	-3.0	H	3.0	39.8	1.0	-41.8	-25.0	-16.8	
		7.6875	-4.4	H	3.0	39.3	1.0	-42.7	-25.0	-17.7	
		10.2500	-2.5	H	3.0	38.6	1.0	-40.1	-25.0	-15.1	
		Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									