WCDMA Band 2

WCDMA

Band 2
REL99

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-18-16
Test Engineer: Steven Kim
Configuration: EUT ONLY, Z Position
Mode: REL99_1900 MHz

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								
1852.40	12.84	V	1.60	8.79	20.03	33.0	-13.0	
1852.40	16.12	H	1.60	8.79	23.31	33.0	-9.7	
Mid Ch								
1880.00	10.31	V	1.62	8.62	17.31	33.0	-15.7	
1880.00	15.62	H	1.62	8.62	22.62	33.0	-10.4	
High Ch								
1907.60	12.20	V	1.63	8.45	19.02	33.0	-14.0	
1907.60	15.96	H	1.63	8.45	22.78	33.0	-10.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

WCDMA

Band 2
HSDPA

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-18-16
Test Engineer: Steven Kim
Configuration: EUT ONLY, Z Position
Mode: HSDPA_1900 MHz

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								
1852.40	10.39	V	1.60	8.79	17.58	33.0	-15.4	
1852.40	14.78	H	1.60	8.79	21.97	33.0	-11.0	
Mid Ch								
1880.00	8.27	V	1.62	8.62	15.27	33.0	-17.7	
1880.00	14.82	H	1.62	8.62	21.82	33.0	-11.2	
High Ch								
1907.60	11.08	V	1.63	8.45	17.90	33.0	-15.1	
1907.60	15.10	H	1.63	8.45	21.92	33.0	-11.1	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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LTE Band 41

LTE Band 41 20MHz QPSK

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	12.67	V	1.9	9.1	19.93	33.0	-13.1	
2565.00	13.11	H	1.9	9.1	20.37	33.0	-12.6	
Mid Ch								
2605.00	13.44	V	1.9	10.4	21.93	33.0	-11.1	
2605.00	14.45	H	1.9	10.4	22.94	33.0	-10.1	
High Ch								
2645.00	12.38	V	1.9	10.3	20.82	33.0	-12.2	
2645.00	13.67	H	1.9	10.3	22.11	33.0	-10.9	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

LTE Band 41 20MHz 16QAM

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	11.73	V	1.9	9.1	18.99	33.0	-14.0	
2565.00	12.08	H	1.9	9.1	19.34	33.0	-13.7	
Mid Ch								
2605.00	12.72	V	1.9	10.4	21.21	33.0	-11.8	
2605.00	13.56	H	1.9	10.4	22.05	33.0	-11.0	
High Ch								
2645.00	11.52	V	1.9	10.3	19.96	33.0	-13.0	
2645.00	12.72	H	1.9	10.3	21.16	33.0	-11.8	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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LTE Band 41 15MHz QPSK

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2562.50	12.82	V	1.9	9.1	20.08	33.0	-12.9	
2562.50	13.46	H	1.9	9.1	20.72	33.0	-12.3	
Mid Ch								
2605.00	13.49	V	1.9	10.4	21.98	33.0	-11.0	
2605.00	14.35	H	1.9	10.4	22.84	33.0	-10.2	
High Ch								
2647.50	12.65	V	1.9	10.3	21.09	33.0	-11.9	
2647.50	12.75	H	1.9	10.3	21.19	33.0	-11.8	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

LTE Band 41 15MHz 16QAM

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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 MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
2562.50	11.88	V	1.9	9.1	19.14	33.0	-13.9	
2562.50	12.56	H	1.9	9.1	19.82	33.0	-13.2	
Mid Ch								
2605.00	12.72	V	1.9	10.4	21.21	33.0	-11.8	
2605.00	13.56	H	1.9	10.4	22.05	33.0	-11.0	
High Ch								
2647.50	11.73	V	1.9	10.3	20.17	33.0	-12.8	
2647.50	11.92	H	1.9	10.3	20.36	33.0	-12.6	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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LTE Band 41 10MHz QPSK

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	13.77	V	1.9	9.1	21.03	33.0	-12.0	
2560.00	14.01	H	1.9	9.1	21.27	33.0	-11.7	
Mid Ch								
2605.00	13.59	V	1.9	10.4	22.08	33.0	-10.9	
2605.00	14.43	H	1.9	10.4	22.92	33.0	-10.1	
High Ch								
2650.00	12.21	V	1.9	10.3	20.65	33.0	-12.3	
2650.00	12.19	H	1.9	10.3	20.63	33.0	-12.4	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

LTE Band 41 10MHz 16QAM

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	12.72	V	1.9	9.1	19.98	33.0	-13.0	
2560.00	12.99	H	1.9	9.1	20.25	33.0	-12.8	
Mid Ch								
2605.00	12.82	V	1.9	10.4	21.31	33.0	-11.7	
2605.00	13.72	H	1.9	10.4	22.21	33.0	-10.8	
High Ch								
2650.00	11.30	V	1.9	10.3	19.74	33.0	-13.3	
2650.00	11.31	H	1.9	10.3	19.75	33.0	-13.2	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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LTE Band 41 5MHz QPSK

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	13.25	V	1.9	9.1	20.51	33.0	-12.5	
2557.50	12.93	H	1.9	9.1	20.19	33.0	-12.8	
Mid Ch								
2605.00	14.28	V	1.9	10.4	22.77	33.0	-10.2	
2605.00	14.98	H	1.9	10.4	23.47	33.0	-9.5	
High Ch								
2652.50	11.86	V	1.9	10.3	20.30	33.0	-12.7	
2652.50	12.64	H	1.9	10.3	21.08	33.0	-11.9	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

LTE Band 41 5MHz 16QAM

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
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	12.34	V	1.9	9.1	19.60	33.0	-13.4	
2557.50	12.04	H	1.9	9.1	19.30	33.0	-13.7	
Mid Ch								
2605.00	13.68	V	1.9	10.4	22.17	33.0	-10.8	
2605.00	14.37	H	1.9	10.4	22.86	33.0	-10.1	
High Ch								
2652.50	10.94	V	1.9	10.3	19.38	33.0	-13.6	
2652.50	11.75	H	1.9	10.3	20.19	33.0	-12.8	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

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BC0

BC0
1xRTT

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 05-02-16
Test Engineer: Chan Park
Configuration: EUT ONLY, Y Position
Mode: CDMA RTT BC0

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	22.02	V	1.1	-1.6	19.40	38.5	-19.1	
824.70	13.46	H	1.1	-1.6	10.84	38.5	-27.6	
Mid Ch								
836.52	20.38	V	1.1	-1.4	17.89	38.5	-20.6	
836.52	13.51	H	1.1	-1.4	11.02	38.5	-27.4	
High Ch								
848.31	18.78	V	1.1	-1.3	16.42	38.5	-22.0	
848.31	13.07	H	1.1	-1.3	10.71	38.5	-27.7	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

BC0
EVDO Rel.0

High Frequency Substitution Measurement
UL Korea, Ltd. Suwon Laboratory Chamber 2

Company: Samsung
Project #: 16K23302
Date: 05-02-16
Test Engineer: Chan Park
Configuration: EUT ONLY, Y Position
Mode: CDMA EVDO BC0

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	21.29	V	1.1	-1.6	18.67	38.5	-19.8	
824.70	11.84	H	1.1	-1.6	9.22	38.5	-29.2	
Mid Ch								
836.52	21.48	V	1.1	-1.4	18.99	38.5	-19.5	
836.52	11.92	H	1.1	-1.4	9.43	38.5	-29.0	
High Ch								
848.31	18.64	V	1.1	-1.3	16.28	38.5	-22.2	
848.31	11.55	H	1.1	-1.3	9.19	38.5	-29.3	

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

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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

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

RESULTS

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11.2.1. SPURIOUS RADIATION PLOTS

GSM 850

GSM

GSM850
GPRS

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

Company: Samsung
Project #: 16K23302
Date: 04-19-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Earphone, Y Position
Mode: GPRS 850 MHz

Chamber	Pre-amplifer	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	-1.5	V	3.0	39.1	1.0	-39.6	-13.0	-26.6	
2.4726	-0.5	V	3.0	39.5	1.0	-39.0	-13.0	-26.0	
3.2968	-16.6	V	3.0	40.1	1.0	-55.7	-13.0	-42.7	
1.6484	-9.5	H	3.0	39.1	1.0	-47.6	-13.0	-34.6	
2.4726	4.2	H	3.0	39.5	1.0	-34.3	-13.0	-21.3	
3.2968	-17.1	H	3.0	40.1	1.0	-56.2	-13.0	-43.2	
Mid Ch, 836.6MHz									
1.6730	-0.8	V	3.0	39.1	1.0	-38.9	-13.0	-25.9	
2.5098	-0.6	V	3.0	39.5	1.0	-39.1	-13.0	-26.1	
3.3464	-17.0	V	3.0	40.1	1.0	-56.1	-13.0	-43.1	
1.6730	-9.6	H	3.0	39.1	1.0	-47.7	-13.0	-34.7	
2.5098	6.0	H	3.0	39.5	1.0	-32.5	-13.0	-19.5	
3.3464	-17.2	H	3.0	40.1	1.0	-56.3	-13.0	-43.3	
High Ch, 848.8MHz									
1.6976	-0.9	V	3.0	39.1	1.0	-39.0	-13.0	-26.0	
2.5466	-1.6	V	3.0	39.6	1.0	-40.2	-13.0	-27.2	
3.3952	-16.5	V	3.0	40.2	1.0	-55.7	-13.0	-42.7	
1.6976	-9.4	H	3.0	39.1	1.0	-47.5	-13.0	-34.5	
2.5466	7.4	H	3.0	39.6	1.0	-31.2	-13.0	-18.2	
3.3952	-17.0	H	3.0	40.2	1.0	-56.2	-13.0	-43.2	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

GSM

GSM850
EGPRS

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

Company: Samsung
Project #: 16K23302
Date: 04-19-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Earphone, Y Position
Mode: EGPRS 850 MHz

Chamber	Pre-amplifer	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	-12.7	V	3.0	39.1	1.0	-50.8	-13.0	-37.8	
2.4726	-18.0	V	3.0	39.5	1.0	-56.5	-13.0	-43.5	
3.2968	-17.5	V	3.0	40.1	1.0	-56.6	-13.0	-43.6	
1.6484	-18.8	H	3.0	39.1	1.0	-56.9	-13.0	-43.9	
2.4726	-13.3	H	3.0	39.5	1.0	-51.9	-13.0	-38.9	
3.2968	-17.8	H	3.0	40.1	1.0	-56.9	-13.0	-43.9	
Mid Ch, 836.6MHz									
1.6730	-12.2	V	3.0	39.1	1.0	-50.3	-13.0	-37.3	
2.5098	-17.3	V	3.0	39.5	1.0	-55.9	-13.0	-42.9	
3.3464	-17.4	V	3.0	40.1	1.0	-56.5	-13.0	-43.5	
1.6730	-19.4	H	3.0	39.1	1.0	-57.6	-13.0	-44.6	
2.5098	-11.2	H	3.0	39.5	1.0	-49.8	-13.0	-36.8	
3.3464	-17.5	H	3.0	40.1	1.0	-56.6	-13.0	-43.6	
High Ch, 848.8MHz									
1.6976	-11.5	V	3.0	39.1	1.0	-49.7	-13.0	-36.7	
2.5466	-18.9	V	3.0	39.6	1.0	-57.4	-13.0	-44.4	
3.3952	-17.3	V	3.0	40.2	1.0	-56.4	-13.0	-43.4	
1.6976	-20.5	H	3.0	39.1	1.0	-58.6	-13.0	-45.6	
2.5466	-11.4	H	3.0	39.6	1.0	-50.0	-13.0	-37.0	
3.3952	-17.5	H	3.0	40.2	1.0	-56.7	-13.0	-43.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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GSM 1900

GSM

GSM1900
GPRS

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

Company:	Samsung
Project #:	16K23302
Date:	04-18-16
Test Engineer:	Steven Kim
Configuration:	EUT / AC Adapter / Earphone / Z Position
Mode:	GPRS 1900

Chamber	Pre-amplifer	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	-16.6	V	3.0	40.5	1.0	-56.0	-13.0	-43.0	
5.5506	-6.1	V	3.0	40.8	1.0	-45.9	-13.0	-32.9	
7.4008	-10.8	V	3.0	40.8	1.0	-50.6	-13.0	-37.6	
3.7000	-17.0	H	3.0	40.5	1.0	-56.5	-13.0	-43.5	
5.5506	-9.6	H	3.0	40.8	1.0	-49.5	-13.0	-36.5	
7.4008	-10.1	H	3.0	40.8	1.0	-49.9	-13.0	-36.9	
Mid Ch, 1880.0MHz									
3.7600	-15.7	V	3.0	40.5	1.0	-55.2	-13.0	-42.2	
5.6400	-7.6	V	3.0	40.8	1.0	-47.4	-13.0	-34.4	
7.5200	-9.7	V	3.0	40.7	1.0	-49.4	-13.0	-36.4	
3.7600	-16.5	H	3.0	40.5	1.0	-56.0	-13.0	-43.0	
5.6400	-8.6	H	3.0	40.8	1.0	-48.4	-13.0	-35.4	
7.5200	-9.1	H	3.0	40.7	1.0	-48.8	-13.0	-35.8	
High Ch, 1909.8 MHz									
3.8196	-15.3	V	3.0	40.6	1.0	-54.9	-13.0	-41.9	
5.7294	-9.5	V	3.0	40.8	1.0	-49.3	-13.0	-36.3	
7.6392	-10.5	V	3.0	40.7	1.0	-50.2	-13.0	-37.2	
3.8196	-16.5	H	3.0	40.6	1.0	-56.1	-13.0	-43.1	
5.7294	-10.3	H	3.0	40.8	1.0	-50.1	-13.0	-37.1	
7.6392	-9.1	H	3.0	40.7	1.0	-48.8	-13.0	-35.8	

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 #:	16K23302
Date:	04-18-16
Test Engineer:	Steven Kim
Configuration:	EUT / AC Adapter / Earphone / Z Position
Mode:	EGPRS 1900 MHz

Chamber	Pre-amplifer	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	-17.5	V	3.0	40.5	1.0	-57.0	-13.0	-44.0	
5.5506	-11.4	V	3.0	40.8	1.0	-51.2	-13.0	-38.2	
7.4008	-10.5	V	3.0	40.8	1.0	-50.3	-13.0	-37.3	
3.7000	-17.6	H	3.0	40.5	1.0	-57.1	-13.0	-44.1	
5.5500	-13.1	H	3.0	40.8	1.0	-52.9	-13.0	-39.9	
7.4000	-11.4	H	3.0	40.8	1.0	-51.2	-13.0	-38.2	
Mid Ch, 1880.0MHz									
3.7600	-16.6	V	3.0	40.5	1.0	-56.1	-13.0	-43.1	
5.6400	-12.4	V	3.0	40.8	1.0	-52.2	-13.0	-39.2	
7.5200	-10.5	V	3.0	40.7	1.0	-50.2	-13.0	-37.2	
3.7600	-17.2	H	3.0	40.5	1.0	-56.8	-13.0	-43.8	
5.6400	-13.1	H	3.0	40.8	1.0	-52.9	-13.0	-39.9	
7.5200	-10.1	H	3.0	40.7	1.0	-49.9	-13.0	-36.9	
High Ch, 1909.8 MHz									
3.8196	-15.8	V	3.0	40.6	1.0	-55.4	-13.0	-42.4	
5.7294	-13.2	V	3.0	40.8	1.0	-53.0	-13.0	-40.0	
7.6392	-10.8	V	3.0	40.7	1.0	-50.5	-13.0	-37.5	
3.8196	-17.0	H	3.0	40.6	1.0	-56.6	-13.0	-43.6	
5.7294	-13.2	H	3.0	40.8	1.0	-53.0	-13.0	-40.0	
7.6392	-10.3	H	3.0	40.7	1.0	-50.0	-13.0	-37.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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WCDMA Band 5

WCDMA Band 5 REL99		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 16K23302 Date: 04-19-16 Test Engineer: Steven Kim Configuration: EUT / AC Adapter / Earphone, Y Position Mode: Tx, REL99,850MHz Chamber: Chamber 2 / Pre-amplifer: 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	-17.6	V	3.0	39.1	1.0	-55.7	-13.0	-42.7	
2.4790	-17.1	V	3.0	39.5	1.0	-55.6	-13.0	-42.6	
3.3056	-15.6	V	3.0	40.1	1.0	-54.7	-13.0	-41.7	
1.6520	-20.3	H	3.0	39.1	1.0	-58.4	-13.0	-45.4	
2.4790	-16.9	H	3.0	39.5	1.0	-55.4	-13.0	-42.4	
3.3056	-15.8	H	3.0	40.1	1.0	-54.9	-13.0	-41.9	
Mid Ch, 836.6MHz									
1.6732	-16.8	V	3.0	39.1	1.0	-54.9	-13.0	-41.9	
2.5098	-16.7	V	3.0	39.5	1.0	-55.2	-13.0	-42.2	
3.3464	-15.6	V	3.0	40.1	1.0	-54.7	-13.0	-41.7	
1.6732	-19.8	H	3.0	39.1	1.0	-58.0	-13.0	-45.0	
2.5098	-16.5	H	3.0	39.5	1.0	-55.0	-13.0	-42.0	
3.3464	-15.8	H	3.0	40.1	1.0	-55.0	-13.0	-42.0	
High Ch, 846.6MHz									
1.6932	-17.1	V	3.0	39.1	1.0	-55.3	-13.0	-42.3	
2.5390	-16.8	V	3.0	39.6	1.0	-55.3	-13.0	-42.3	
3.3860	-15.4	V	3.0	40.2	1.0	-54.6	-13.0	-41.6	
1.6932	-19.8	H	3.0	39.1	1.0	-57.9	-13.0	-44.9	
2.5390	-16.3	H	3.0	39.6	1.0	-54.9	-13.0	-41.9	
3.3860	-15.6	H	3.0	40.2	1.0	-54.7	-13.0	-41.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

WCDMA Band 5 HSDPA		UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 16K23302 Date: 04-19-16 Test Engineer: Steven Kim Configuration: EUT / AC Adapter / Earphone, Y Position Mode: Tx, HSDPA,850MHz Chamber: Chamber 2 / Pre-amplifer: 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	-18.0	V	3.0	39.1	1.0	-56.1	-13.0	-43.1	
2.4790	-17.2	V	3.0	39.5	1.0	-55.7	-13.0	-42.7	
3.3056	-15.6	V	3.0	40.1	1.0	-54.7	-13.0	-41.7	
1.6520	-20.3	H	3.0	39.1	1.0	-58.4	-13.0	-45.4	
2.4790	-16.6	H	3.0	39.5	1.0	-55.1	-13.0	-42.1	
3.3056	-15.8	H	3.0	40.1	1.0	-54.9	-13.0	-41.9	
Mid Ch, 836.6MHz									
1.6732	-17.6	V	3.0	39.1	1.0	-55.7	-13.0	-42.7	
2.5098	-16.8	V	3.0	39.5	1.0	-55.3	-13.0	-42.3	
3.3464	-15.5	V	3.0	40.1	1.0	-54.7	-13.0	-41.7	
1.6732	-20.0	H	3.0	39.1	1.0	-58.1	-13.0	-45.1	
2.5098	-16.5	H	3.0	39.5	1.0	-55.1	-13.0	-42.1	
3.3464	-15.8	H	3.0	40.1	1.0	-54.9	-13.0	-41.9	
High Ch, 846.6MHz									
1.6932	-17.6	V	3.0	39.1	1.0	-55.7	-13.0	-42.7	
2.5390	-15.9	V	3.0	39.6	1.0	-54.4	-13.0	-41.4	
3.3860	-15.3	V	3.0	40.2	1.0	-54.5	-13.0	-41.5	
1.6932	-19.7	H	3.0	39.1	1.0	-57.8	-13.0	-44.8	
2.5390	-16.4	H	3.0	39.6	1.0	-55.0	-13.0	-42.0	
3.3860	-15.7	H	3.0	40.2	1.0	-54.9	-13.0	-41.9	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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WCDMA Band 2

WCDMA

Band 2
REL99

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

Company: Samsung
Project #: 16K23302
Date: 04-18-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Earphone / Z Position
Mode: Tx, REL99,1900MHz

Chamber	Pre-amplifer	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, 1852.4MHz									
3.7048	-14.8	V	3.0	40.5	1.0	-54.3	-13.0	-41.3	
5.5572	-11.0	V	3.0	40.8	1.0	-50.8	-13.0	-37.8	
7.4096	-9.7	V	3.0	40.8	1.0	-49.5	-13.0	-36.5	
3.7048	-14.6	H	3.0	40.5	1.0	-54.1	-13.0	-41.1	
5.5572	-10.6	H	3.0	40.8	1.0	-50.4	-13.0	-37.4	
7.4096	-9.6	H	3.0	40.8	1.0	-49.4	-13.0	-36.4	
Mid Ch, 1880MHz									
3.7600	-13.8	V	3.0	40.5	1.0	-53.3	-13.0	-40.3	
5.6400	-10.7	V	3.0	40.8	1.0	-50.5	-13.0	-37.5	
7.5200	-8.8	V	3.0	40.7	1.0	-48.5	-13.0	-35.5	
3.7600	-14.4	H	3.0	40.5	1.0	-54.0	-13.0	-41.0	
5.6400	-10.6	H	3.0	40.8	1.0	-50.4	-13.0	-37.4	
7.5200	-9.0	H	3.0	40.7	1.0	-48.7	-13.0	-35.7	
High Ch, 1907.6MHz									
3.8152	-11.6	V	3.0	40.6	1.0	-51.2	-13.0	-38.2	
5.7228	-8.8	V	3.0	40.8	1.0	-48.6	-13.0	-35.6	
7.6304	-8.7	V	3.0	40.7	1.0	-48.3	-13.0	-35.3	
3.8152	-12.8	H	3.0	40.6	1.0	-52.4	-13.0	-39.4	
5.7228	-9.1	H	3.0	40.8	1.0	-48.9	-13.0	-35.9	
7.6304	-8.6	H	3.0	40.7	1.0	-48.3	-13.0	-35.3	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

WCDMA

Band 2
HSDPA

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

Company: Samsung
Project #: 16K23302
Date: 04-18-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Earphone / Z Position
Mode: Tx, HSDPA,1900MHz

Chamber	Pre-amplifer	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, 1852.4MHz									
3.7048	-15.1	V	3.0	40.5	1.0	-54.6	-13.0	-41.6	
5.5572	-11.0	V	3.0	40.8	1.0	-50.8	-13.0	-37.8	
7.4096	-9.7	V	3.0	40.8	1.0	-49.4	-13.0	-36.4	
3.7048	-14.9	H	3.0	40.5	1.0	-54.4	-13.0	-41.4	
5.5572	-10.7	H	3.0	40.8	1.0	-50.5	-13.0	-37.5	
7.4096	-9.6	H	3.0	40.8	1.0	-49.4	-13.0	-36.4	
Mid Ch, 1880MHz									
3.7600	-14.1	V	3.0	40.5	1.0	-53.6	-13.0	-40.6	
5.6400	-10.7	V	3.0	40.8	1.0	-50.5	-13.0	-37.5	
7.5200	-9.1	V	3.0	40.7	1.0	-48.9	-13.0	-35.9	
3.7600	-14.6	H	3.0	40.5	1.0	-54.2	-13.0	-41.2	
5.6400	-10.3	H	3.0	40.8	1.0	-50.1	-13.0	-37.1	
7.5200	-8.9	H	3.0	40.7	1.0	-48.6	-13.0	-35.6	
High Ch, 1907.6MHz									
3.8152	-12.5	V	3.0	40.6	1.0	-52.1	-13.0	-39.1	
5.7228	-9.4	V	3.0	40.8	1.0	-49.2	-13.0	-36.2	
7.6304	-8.7	V	3.0	40.7	1.0	-48.3	-13.0	-35.3	
3.8152	-13.4	H	3.0	40.6	1.0	-53.0	-13.0	-40.0	
5.7228	-6.3	H	3.0	40.8	1.0	-46.1	-13.0	-33.1	
7.6304	-8.9	H	3.0	40.7	1.0	-48.5	-13.0	-35.5	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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LTE Band 41

LTE Band 41 20MHz QPSK

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

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 20MHz BW, QPSK

Chamber	Pre-amplifer	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, (2565 MHz)									
5.1300	-19.5	V	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.6950	-16.3	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2600	-13.5	V	3.0	39.5	1.0	-52.0	-25.0	-27.0	
5.1300	-19.3	H	3.0	40.9	1.0	-59.2	-25.0	-34.2	
7.6950	-16.2	H	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.2600	-16.1	H	3.0	39.5	1.0	-54.6	-25.0	-29.6	
Mid Ch, (2605 MHz)									
5.2100	-19.5	V	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.8150	-16.3	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.4200	-13.4	V	3.0	39.4	1.0	-51.8	-25.0	-26.8	
5.2100	-19.3	H	3.0	40.9	1.0	-59.2	-25.0	-34.2	
7.8150	-16.1	H	3.0	40.6	1.0	-55.6	-25.0	-30.6	
10.4200	-15.5	H	3.0	39.4	1.0	-53.9	-25.0	-28.9	
High Ch, (2645 MHz)									
5.2900	-18.4	V	3.0	40.9	1.0	-58.3	-25.0	-33.3	
7.9350	-15.5	V	3.0	40.5	1.0	-55.0	-25.0	-30.0	
10.5800	-13.6	V	3.0	39.3	1.0	-51.9	-25.0	-26.9	
5.2900	-18.3	H	3.0	40.9	1.0	-58.1	-25.0	-33.1	
7.9350	-15.3	H	3.0	40.5	1.0	-54.8	-25.0	-29.8	
10.5800	-15.0	H	3.0	39.3	1.0	-53.3	-25.0	-28.3	

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 #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 20MHz BW,16QAM

Chamber	Pre-amplifer	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, (2565 MHz)									
5.1300	-19.7	V	3.0	40.9	1.0	-59.6	-25.0	-34.6	
7.6950	-16.3	V	3.0	40.6	1.0	-56.0	-25.0	-31.0	
10.2600	-13.6	V	3.0	39.5	1.0	-52.1	-25.0	-27.1	
5.1300	-19.5	H	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.6950	-16.3	H	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2600	-16.2	H	3.0	39.5	1.0	-54.7	-25.0	-29.7	
Mid Ch, (2605 MHz)									
5.2100	-19.5	V	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.8150	-16.5	V	3.0	40.6	1.0	-56.0	-25.0	-31.0	
10.4200	-13.6	V	3.0	39.4	1.0	-51.9	-25.0	-26.9	
5.2100	-19.5	H	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.8150	-16.3	H	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.4200	-15.8	H	3.0	39.4	1.0	-54.2	-25.0	-29.2	
High Ch, (2645 MHz)									
5.2900	-18.7	V	3.0	40.9	1.0	-58.6	-25.0	-33.6	
7.9350	-15.8	V	3.0	40.5	1.0	-55.3	-25.0	-30.3	
10.5800	-13.7	V	3.0	39.3	1.0	-51.9	-25.0	-26.9	
5.2900	-18.5	H	3.0	40.9	1.0	-58.3	-25.0	-33.3	
7.9350	-15.6	H	3.0	40.5	1.0	-55.1	-25.0	-30.1	
10.5800	-15.3	H	3.0	39.3	1.0	-53.6	-25.0	-28.6	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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LTE Band 41 15MHz QPSK

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

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 15MHz BW,QPSK

Chamber	Pre-amplifer	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, (2562.5 MHz)									
5.1250	-19.4	V	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.6875	-16.2	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2500	-13.5	V	3.0	39.5	1.0	-52.0	-25.0	-27.0	
5.1250	-19.2	H	3.0	40.9	1.0	-59.1	-25.0	-34.1	
7.6875	-16.1	H	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.2500	-16.1	H	3.0	39.5	1.0	-54.6	-25.0	-29.6	
Mid Ch, (2605 MHz)									
5.2100	-19.4	V	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.8150	-16.3	V	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.4200	-13.4	V	3.0	39.4	1.0	-51.7	-25.0	-26.7	
5.2100	-19.2	H	3.0	40.9	1.0	-59.1	-25.0	-34.1	
7.8150	-16.0	H	3.0	40.6	1.0	-55.6	-25.0	-30.6	
10.4200	-15.4	H	3.0	39.4	1.0	-53.8	-25.0	-28.8	
High Ch, (2647.5 MHz)									
5.2950	-18.3	V	3.0	40.9	1.0	-58.2	-25.0	-33.2	
7.9425	-15.5	V	3.0	40.5	1.0	-55.0	-25.0	-30.0	
10.5900	-13.5	V	3.0	39.3	1.0	-51.8	-25.0	-26.8	
5.2950	-18.2	H	3.0	40.9	1.0	-58.0	-25.0	-33.0	
7.9425	-15.3	H	3.0	40.5	1.0	-54.8	-25.0	-29.8	
10.5900	-14.9	H	3.0	39.3	1.0	-53.1	-25.0	-28.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

LTE Band 41 15MHz 16QAM

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

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 15MHz BW,16QAM

Chamber	Pre-amplifer	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, (2562.5 MHz)									
5.1250	-19.6	V	3.0	40.9	1.0	-59.5	-25.0	-34.5	
7.6875	-16.4	V	3.0	40.6	1.0	-56.0	-25.0	-31.0	
10.2500	-13.6	V	3.0	39.5	1.0	-52.1	-25.0	-27.1	
5.1250	-19.4	H	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.6875	-16.3	H	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2500	-16.2	H	3.0	39.5	1.0	-54.7	-25.0	-29.7	
Mid Ch, (2605 MHz)									
5.2100	-19.5	V	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.8150	-16.4	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.4200	-13.5	V	3.0	39.4	1.0	-51.9	-25.0	-26.9	
5.2100	-19.4	H	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.8150	-16.1	H	3.0	40.6	1.0	-55.7	-25.0	-30.7	
10.4200	-15.5	H	3.0	39.4	1.0	-53.9	-25.0	-28.9	
High Ch, (2647.5 MHz)									
5.2950	-18.5	V	3.0	40.9	1.0	-58.4	-25.0	-33.4	
7.9425	-15.5	V	3.0	40.5	1.0	-55.0	-25.0	-30.0	
10.5900	-13.7	V	3.0	39.3	1.0	-52.0	-25.0	-27.0	
5.2950	-18.3	H	3.0	40.9	1.0	-58.2	-25.0	-33.2	
7.9425	-15.4	H	3.0	40.5	1.0	-54.9	-25.0	-29.9	
10.5900	-15.0	H	3.0	39.3	1.0	-53.3	-25.0	-28.3	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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LTE Band 41 10MHz QPSK

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

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 10MHz BW, QPSK

Chamber	Pre-amplifer	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, (2560 MHz)									
5.1200	-19.3	V	3.0	40.9	1.0	-59.2	-25.0	-34.2	
7.6800	-16.3	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2400	-13.6	V	3.0	39.5	1.0	-52.1	-25.0	-27.1	
5.1200	-19.3	H	3.0	40.9	1.0	-59.2	-25.0	-34.2	
7.6800	-16.1	H	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.2400	-16.1	H	3.0	39.5	1.0	-54.7	-25.0	-29.7	
Mid Ch, (2605 MHz)									
5.2100	-19.5	V	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.8150	-16.3	V	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.4200	-13.4	V	3.0	39.4	1.0	-51.7	-25.0	-26.7	
5.2100	-19.2	H	3.0	40.9	1.0	-59.1	-25.0	-34.1	
7.8150	-16.0	H	3.0	40.6	1.0	-55.6	-25.0	-30.6	
10.4200	-15.4	H	3.0	39.4	1.0	-53.8	-25.0	-28.8	
High Ch, (2650 MHz)									
5.3000	-18.4	V	3.0	40.9	1.0	-58.2	-25.0	-33.2	
7.9500	-15.5	V	3.0	40.5	1.0	-54.9	-25.0	-29.9	
10.6000	-13.5	V	3.0	39.2	1.0	-51.8	-25.0	-26.8	
5.3000	-18.2	H	3.0	40.9	1.0	-58.0	-25.0	-33.0	
7.9500	-15.3	H	3.0	40.5	1.0	-54.8	-25.0	-29.8	
10.6000	-14.9	H	3.0	39.2	1.0	-53.1	-25.0	-28.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

LTE Band 41 10MHz 16QAM

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

Company: Samsung
Project #: 16K23302
Date: 04-21-16
Test Engineer: Steven Kim
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 41, 10MHz BW,16QAM

Chamber	Pre-amplifer	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, (2560 MHz)									
5.1200	-19.5	V	3.0	40.9	1.0	-59.4	-25.0	-34.4	
7.6800	-16.3	V	3.0	40.6	1.0	-55.9	-25.0	-30.9	
10.2400	-13.5	V	3.0	39.5	1.0	-52.0	-25.0	-27.0	
5.1200	-19.3	H	3.0	40.9	1.0	-59.2	-25.0	-34.2	
7.6800	-16.1	H	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.2400	-16.1	H	3.0	39.5	1.0	-54.6	-25.0	-29.6	
Mid Ch, (2605 MHz)									
5.2100	-19.4	V	3.0	40.9	1.0	-59.3	-25.0	-34.3	
7.8150	-16.3	V	3.0	40.6	1.0	-55.8	-25.0	-30.8	
10.4200	-13.3	V	3.0	39.4	1.0	-51.7	-25.0	-26.7	
5.2100	-19.2	H	3.0	40.9	1.0	-59.1	-25.0	-34.1	
7.8150	-16.1	H	3.0	40.6	1.0	-55.6	-25.0	-30.6	
10.4200	-15.4	H	3.0	39.4	1.0	-53.8	-25.0	-28.8	
High Ch, (2650 MHz)									
5.3000	-18.3	V	3.0	40.9	1.0	-58.2	-25.0	-33.2	
7.9500	-15.5	V	3.0	40.5	1.0	-54.9	-25.0	-29.9	
10.6000	-13.5	V	3.0	39.2	1.0	-51.8	-25.0	-26.8	
5.3000	-18.2	H	3.0	40.9	1.0	-58.1	-25.0	-33.1	
7.9500	-15.3	H	3.0	40.5	1.0	-54.8	-25.0	-29.8	
10.6000	-14.8	H	3.0	39.2	1.0	-53.1	-25.0	-28.1	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

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