GSM 1900

GSM

GSM1900
GPRS

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

Company: Samsung
Project #: 4788148881
Date: 09-13-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, Z Position
Mode: GPRS 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	-11.9	V	3.0	39.7	1.0	-50.6	-13.0	-37.6	
5.5506	0.0	V	3.0	39.9	1.0	-39.0	-13.0	-26.0	
7.4008	-10.0	V	3.0	39.4	1.0	-48.4	-13.0	-35.4	
3.7004	-13.9	H	3.0	39.7	1.0	-52.5	-13.0	-39.5	
5.5506	-3.6	H	3.0	39.9	1.0	-42.6	-13.0	-29.6	
7.4008	-7.6	H	3.0	39.4	1.0	-46.1	-13.0	-33.1	
Mid Ch, 1880.0MHz									
3.7600	-10.9	V	3.0	39.7	1.0	-49.6	-13.0	-36.6	
5.6400	-1.0	V	3.0	40.0	1.0	-40.0	-13.0	-27.0	
7.5200	-8.7	V	3.0	39.4	1.0	-47.1	-13.0	-34.1	
3.7600	-10.7	H	3.0	39.7	1.0	-49.4	-13.0	-36.4	
5.6400	-6.9	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7.5200	-7.8	H	3.0	39.4	1.0	-46.2	-13.0	-33.2	
High Ch, 1909.8 MHz									
3.8196	-9.9	V	3.0	39.7	1.0	-48.6	-13.0	-35.6	
5.7294	-4.8	V	3.0	40.0	1.0	-43.8	-13.0	-30.8	
7.6392	-7.0	V	3.0	39.3	1.0	-45.3	-13.0	-32.3	
3.8196	-10.9	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
5.7294	-6.3	H	3.0	40.0	1.0	-45.3	-13.0	-32.3	
7.6392	-7.9	H	3.0	39.3	1.0	-46.2	-13.0	-33.2	

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 #: 4788148881
Date: 09-13-17
Test Engineer: YH Lim
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	-12.4	V	3.0	39.7	1.0	-51.1	-13.0	-38.1	
5.5506	0.3	V	3.0	39.9	1.0	-38.6	-13.0	-25.6	
7.4008	-10.2	V	3.0	39.4	1.0	-48.6	-13.0	-35.6	
3.7004	-14.8	H	3.0	39.7	1.0	-53.5	-13.0	-40.5	
5.5506	-5.0	H	3.0	39.9	1.0	-43.9	-13.0	-30.9	
7.4008	-8.4	H	3.0	39.4	1.0	-46.8	-13.0	-33.8	
Mid Ch, 1880.0MHz									
3.7600	-11.6	V	3.0	39.7	1.0	-50.3	-13.0	-37.3	
5.6400	-3.0	V	3.0	40.0	1.0	-42.0	-13.0	-29.0	
7.5200	-10.4	V	3.0	39.4	1.0	-48.8	-13.0	-35.8	
3.7600	-11.6	H	3.0	39.7	1.0	-50.3	-13.0	-37.3	
5.6400	-6.3	H	3.0	40.0	1.0	-45.2	-13.0	-32.2	
7.5200	-8.4	H	3.0	39.4	1.0	-46.7	-13.0	-33.7	
High Ch, 1909.8 MHz									
3.8196	-11.1	V	3.0	39.7	1.0	-49.8	-13.0	-36.8	
5.7294	-6.3	V	3.0	40.0	1.0	-45.3	-13.0	-32.3	
7.6392	-7.8	V	3.0	39.3	1.0	-46.1	-13.0	-33.1	
3.8196	-12.6	H	3.0	39.7	1.0	-51.3	-13.0	-38.3	
5.7294	-7.1	H	3.0	40.0	1.0	-46.1	-13.0	-33.1	
7.6392	-9.2	H	3.0	39.3	1.0	-47.5	-13.0	-34.5	

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

WCDMA Band 5

WCDMA

Band 5
REL99

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

Company: Samsung
Project #: 4788148881
Date: 09-20-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone / X Position
Mode: Tx, REL99,850MHz

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, 826.40MHz									
1.6520	-16.7	V	3.0	38.2	1.0	-54.0	-13.0	-41.0	
2.4790	-14.2	V	3.0	38.8	1.0	-52.0	-13.0	-39.0	
3.3056	-12.3	V	3.0	39.4	1.0	-50.7	-13.0	-37.7	
1.6520	-15.7	H	3.0	38.2	1.0	-53.0	-13.0	-40.0	
2.4790	-14.1	H	3.0	38.8	1.0	-51.9	-13.0	-38.9	
3.3056	-13.4	H	3.0	39.4	1.0	-51.8	-13.0	-38.8	
Mid Ch, 836.6MHz									
1.6732	-16.5	V	3.0	38.2	1.0	-53.8	-13.0	-40.8	
2.5098	-15.1	V	3.0	38.8	1.0	-52.9	-13.0	-39.9	
3.3464	-13.2	V	3.0	39.5	1.0	-51.7	-13.0	-38.7	
1.6732	-15.2	H	3.0	38.2	1.0	-52.4	-13.0	-39.4	
2.5098	-14.8	H	3.0	38.8	1.0	-52.6	-13.0	-39.6	
3.3464	-12.7	H	3.0	39.5	1.0	-51.2	-13.0	-38.2	
High Ch, 846.6MHz									
1.6932	-17.0	V	3.0	38.2	1.0	-54.3	-13.0	-41.3	
2.5390	-15.5	V	3.0	38.9	1.0	-53.4	-13.0	-40.4	
3.3860	-13.9	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6932	-14.7	H	3.0	38.2	1.0	-51.9	-13.0	-38.9	
2.5390	-15.7	H	3.0	38.9	1.0	-53.5	-13.0	-40.5	
3.3860	-13.1	H	3.0	39.5	1.0	-51.6	-13.0	-38.6	

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 #: 4788148881
Date: 09-20-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone / X Position
Mode: Tx, HSDPA,850MHz

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, 826.40MHz									
1.6520	-17.1	V	3.0	38.2	1.0	-54.3	-13.0	-41.3	
2.4790	-14.8	V	3.0	38.8	1.0	-52.6	-13.0	-39.6	
3.3056	-13.2	V	3.0	39.4	1.0	-51.7	-13.0	-38.7	
1.6520	-15.9	H	3.0	38.2	1.0	-53.2	-13.0	-40.2	
2.4790	-15.2	H	3.0	38.8	1.0	-53.0	-13.0	-40.0	
3.3056	-13.7	H	3.0	39.4	1.0	-52.1	-13.0	-39.1	
Mid Ch, 836.6MHz									
1.6732	-16.7	V	3.0	38.2	1.0	-54.0	-13.0	-41.0	
2.5098	-14.2	V	3.0	38.8	1.0	-52.0	-13.0	-39.0	
3.3464	-13.0	V	3.0	39.5	1.0	-51.5	-13.0	-38.5	
1.6732	-15.3	H	3.0	38.2	1.0	-52.5	-13.0	-39.5	
2.5098	-14.5	H	3.0	38.8	1.0	-52.4	-13.0	-39.4	
3.3464	-12.9	H	3.0	39.5	1.0	-51.3	-13.0	-38.3	
High Ch, 846.6MHz									
1.6932	-16.0	V	3.0	38.2	1.0	-53.2	-13.0	-40.2	
2.5390	-15.5	V	3.0	38.9	1.0	-53.4	-13.0	-40.4	
3.3860	-13.6	V	3.0	39.5	1.0	-52.1	-13.0	-39.1	
1.6932	-14.7	H	3.0	38.2	1.0	-52.0	-13.0	-39.0	
2.5390	-15.7	H	3.0	38.9	1.0	-53.6	-13.0	-40.6	
3.3860	-13.7	H	3.0	39.5	1.0	-52.2	-13.0	-39.2	

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

WCDMA Band 2

WCDMA

Band 2
REL99

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

Company: Samsung
Project #: 4788148881
Date: 09-14-17
Test Engineer: JH Park
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	-10.8	V	3.0	39.7	1.0	-49.4	-13.0	-36.4	
5.5572	-11.5	V	3.0	39.9	1.0	-50.4	-13.0	-37.4	
7.4096	-8.3	V	3.0	39.4	1.0	-46.7	-13.0	-33.7	
3.7048	-3.4	H	3.0	39.7	1.0	-42.1	-13.0	-29.1	
5.5572	-12.0	H	3.0	39.9	1.0	-50.9	-13.0	-37.9	
7.4096	-1.6	H	3.0	39.4	1.0	-40.0	-13.0	-27.0	
Mid Ch, 1880MHz									
3.7600	-9.5	V	3.0	39.7	1.0	-48.2	-13.0	-35.2	
5.6400	-11.8	V	3.0	40.0	1.0	-50.8	-13.0	-37.8	
7.5200	-1.7	V	3.0	39.4	1.0	-40.1	-13.0	-27.1	
3.7600	-5.7	H	3.0	39.7	1.0	-44.4	-13.0	-31.4	
5.6400	-10.1	H	3.0	40.0	1.0	-49.1	-13.0	-36.1	
7.5200	-2.2	H	3.0	39.4	1.0	-40.6	-13.0	-27.6	
High Ch, 1907.6MHz									
3.8152	-7.6	V	3.0	39.7	1.0	-46.3	-13.0	-33.3	
5.7228	-11.0	V	3.0	40.0	1.0	-50.0	-13.0	-37.0	
7.6304	-9.6	V	3.0	39.3	1.0	-48.0	-13.0	-35.0	
3.8152	-5.2	H	3.0	39.7	1.0	-43.9	-13.0	-30.9	
5.7228	-5.5	H	3.0	40.0	1.0	-44.5	-13.0	-31.5	
7.6304	-3.0	H	3.0	39.3	1.0	-41.4	-13.0	-28.4	

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 #: 4788148881
Date: 09-14-17
Test Engineer: JH Park
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	-9.9	V	3.0	39.7	1.0	-48.6	-13.0	-35.6	
5.5572	-11.2	V	3.0	39.9	1.0	-50.2	-13.0	-37.2	
7.4096	-8.0	V	3.0	39.4	1.0	-46.4	-13.0	-33.4	
3.7048	-1.8	H	3.0	39.7	1.0	-40.5	-13.0	-27.5	
5.5572	-11.5	H	3.0	39.9	1.0	-50.4	-13.0	-37.4	
7.4096	-1.6	H	3.0	39.4	1.0	-40.0	-13.0	-27.0	
Mid Ch, 1880MHz									
3.7600	-10.7	V	3.0	39.7	1.0	-49.4	-13.0	-36.4	
5.6400	-10.9	V	3.0	40.0	1.0	-49.9	-13.0	-36.9	
7.5200	-3.5	V	3.0	39.4	1.0	-41.8	-13.0	-28.8	
3.7600	-4.5	H	3.0	39.7	1.0	-43.2	-13.0	-30.2	
5.6400	-9.4	H	3.0	40.0	1.0	-48.4	-13.0	-35.4	
7.5200	-2.0	H	3.0	39.4	1.0	-40.4	-13.0	-27.4	
High Ch, 1907.6MHz									
3.8152	-9.7	V	3.0	39.7	1.0	-48.4	-13.0	-35.4	
5.7228	-10.6	V	3.0	40.0	1.0	-49.6	-13.0	-36.6	
7.6304	-10.1	V	3.0	39.3	1.0	-48.5	-13.0	-35.5	
3.8152	-5.1	H	3.0	39.7	1.0	-43.9	-13.0	-30.9	
5.7228	-6.8	H	3.0	40.0	1.0	-45.8	-13.0	-32.8	
7.6304	-3.0	H	3.0	39.3	1.0	-41.3	-13.0	-28.3	

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

LTE Band 5

LTE

Band 5

10MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-25-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 10MHz BW,QPSK

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 Channel (829MHz)									
1.6580	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8	
2.4870	-14.1	V	3.0	38.8	1.0	-51.9	-13.0	-38.9	
3.3160	-8.7	V	3.0	39.4	1.0	-47.1	-13.0	-34.1	
4.1450	-3.4	V	3.0	39.8	1.0	-42.2	-13.0	-29.2	
4.9740	-10.1	V	3.0	39.8	1.0	-48.9	-13.0	-35.9	
1.6580	-8.6	H	3.0	38.2	1.0	-45.8	-13.0	-32.8	
2.4870	-14.8	H	3.0	38.8	1.0	-52.6	-13.0	-39.6	
3.3160	-10.0	H	3.0	39.4	1.0	-48.4	-13.0	-35.4	
4.1450	-5.5	H	3.0	39.8	1.0	-44.3	-13.0	-31.3	
4.9740	-12.1	H	3.0	39.8	1.0	-50.9	-13.0	-37.9	
Mid Channel (836.5MHz)									
1.6730	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8	
2.5095	-11.7	V	3.0	38.8	1.0	-49.5	-13.0	-36.5	
3.3460	-9.3	V	3.0	39.5	1.0	-47.7	-13.0	-34.7	
4.1825	-1.5	V	3.0	39.8	1.0	-40.3	-13.0	-27.3	
5.0190	-9.2	V	3.0	39.8	1.0	-48.0	-13.0	-35.0	
1.6730	-14.2	H	3.0	38.2	1.0	-51.5	-13.0	-38.5	
2.5095	-12.9	H	3.0	38.8	1.0	-50.7	-13.0	-37.7	
3.3460	-10.3	H	3.0	39.5	1.0	-48.7	-13.0	-35.7	
4.1825	-6.3	H	3.0	39.8	1.0	-45.1	-13.0	-32.1	
5.0190	-10.6	H	3.0	39.8	1.0	-49.3	-13.0	-36.3	
High Channel (844MHz)									
1.6880	-4.1	V	3.0	38.2	1.0	-41.3	-13.0	-28.3	
2.5320	-13.1	V	3.0	38.9	1.0	-50.9	-13.0	-37.9	
3.3760	-10.0	V	3.0	39.5	1.0	-48.4	-13.0	-35.4	
4.2200	-5.1	V	4.0	39.8	2.0	-40.4	-13.0	-27.4	
5.0640	-10.3	V	5.0	39.8	3.0	-42.7	-13.0	-29.7	
1.6880	-12.1	H	3.0	38.2	1.0	-49.4	-13.0	-36.4	
2.5320	-13.6	H	3.0	38.9	1.0	-51.5	-13.0	-38.5	
3.3760	-11.4	H	3.0	39.5	1.0	-49.8	-13.0	-36.8	
4.2200	-9.8	H	3.0	39.8	1.0	-48.6	-13.0	-35.6	
5.0640	-11.8	H	3.0	39.8	1.0	-50.5	-13.0	-37.5	

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

LTE

Band 5

10MHz

16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-25-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 10MHz BW, 16QAM

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 Channel (829MHz)									
1.6580	-2.6	V	3.0	38.2	1.0	-39.9	-13.0	-26.9	
2.4870	-14.5	V	3.0	38.8	1.0	-52.3	-13.0	-39.3	
3.3160	-8.7	V	3.0	39.4	1.0	-47.1	-13.0	-34.1	
4.1450	-3.3	V	3.0	39.8	1.0	-42.1	-13.0	-29.1	
4.9740	-9.7	V	3.0	39.8	1.0	-48.5	-13.0	-35.5	
1.6580	-8.1	H	3.0	38.2	1.0	-45.3	-13.0	-32.3	
2.4870	-15.6	H	3.0	38.8	1.0	-53.4	-13.0	-40.4	
3.3160	-10.6	H	3.0	39.4	1.0	-49.0	-13.0	-36.0	
4.1450	-6.1	H	3.0	39.8	1.0	-44.9	-13.0	-31.9	
4.9740	-12.3	H	3.0	39.8	1.0	-51.1	-13.0	-38.1	
Mid Channel (836.5MHz)									
1.6730	-2.2	V	3.0	38.2	1.0	-39.4	-13.0	-26.4	
2.5095	-12.0	V	3.0	38.8	1.0	-49.8	-13.0	-36.8	
3.3460	-9.1	V	3.0	39.5	1.0	-47.6	-13.0	-34.6	
4.1825	-1.7	V	3.0	39.8	1.0	-40.5	-13.0	-27.5	
5.0190	-9.2	V	3.0	39.8	1.0	-48.0	-13.0	-35.0	
1.6730	-14.2	H	3.0	38.2	1.0	-51.4	-13.0	-38.4	
2.5095	-12.9	H	3.0	38.8	1.0	-50.8	-13.0	-37.8	
3.3460	-10.4	H	3.0	39.5	1.0	-48.8	-13.0	-35.8	
4.1825	-6.2	H	3.0	39.8	1.0	-45.0	-13.0	-32.0	
5.0190	-10.4	H	3.0	39.8	1.0	-49.2	-13.0	-36.2	
High Channel (844MHz)									
1.6880	-4.8	V	3.0	38.2	1.0	-42.1	-13.0	-29.1	
2.5320	-13.0	V	3.0	38.9	1.0	-50.8	-13.0	-37.8	
3.3760	-10.4	V	3.0	39.5	1.0	-48.8	-13.0	-35.8	
4.2200	-5.2	V	4.0	39.8	2.0	-40.6	-13.0	-27.6	
5.0640	-11.0	V	5.0	39.8	3.0	-43.4	-13.0	-30.4	
1.6880	-12.0	H	3.0	38.2	1.0	-49.3	-13.0	-36.3	
2.5320	-13.9	H	3.0	38.9	1.0	-51.8	-13.0	-38.8	
3.3760	-11.3	H	3.0	39.5	1.0	-49.8	-13.0	-36.8	
4.2200	-10.1	H	3.0	39.8	1.0	-48.9	-13.0	-35.9	
5.0640	-12.3	H	3.0	39.8	1.0	-51.1	-13.0	-38.1	

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

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_22/24/27
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

LTE

Band 5

5MHz

QPSK

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 5MHz BW,QPSK

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 Channel (826.5MHz)									
1.6530	-2.3	V	3.0	38.2	1.0	-39.5	-13.0	-26.5	
2.4795	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.3060	-10.1	V	3.0	39.4	1.0	-48.6	-13.0	-35.6	
4.1325	-5.6	V	3.0	39.8	1.0	-44.4	-13.0	-31.4	
4.9590	-9.7	V	3.0	39.8	1.0	-48.5	-13.0	-35.5	
1.6530	-11.2	H	3.0	38.2	1.0	-48.5	-13.0	-35.5	
2.4795	-15.7	H	3.0	38.8	1.0	-53.5	-13.0	-40.5	
3.3060	-12.4	H	3.0	39.4	1.0	-50.9	-13.0	-37.9	
4.1325	-9.4	H	3.0	39.8	1.0	-48.2	-13.0	-35.2	
4.9590	-11.2	H	3.0	39.8	1.0	-50.0	-13.0	-37.0	
Mid Channel (836.5MHz)									
1.6730	-2.4	V	3.0	38.2	1.0	-39.7	-13.0	-26.7	
2.5095	-11.6	V	3.0	38.8	1.0	-49.5	-13.0	-36.5	
3.3460	-9.2	V	3.0	39.5	1.0	-47.7	-13.0	-34.7	
4.1825	-3.8	V	3.0	39.8	1.0	-42.6	-13.0	-29.6	
5.0190	-9.2	V	3.0	39.8	1.0	-48.0	-13.0	-35.0	
1.6730	-14.1	H	3.0	38.2	1.0	-51.4	-13.0	-38.4	
2.5095	-12.5	H	3.0	38.8	1.0	-50.3	-13.0	-37.3	
3.3460	-10.1	H	3.0	39.5	1.0	-48.5	-13.0	-35.5	
4.1825	-6.1	H	3.0	39.8	1.0	-45.0	-13.0	-32.0	
5.0190	-10.6	H	3.0	39.8	1.0	-49.4	-13.0	-36.4	
High Channel (846.5MHz)									
1.6930	-2.4	V	3.0	38.2	1.0	-39.7	-13.0	-26.7	
2.5395	-11.5	V	3.0	38.9	1.0	-49.4	-13.0	-36.4	
3.3860	-9.4	V	3.0	39.5	1.0	-47.9	-13.0	-34.9	
4.2325	-3.4	V	4.0	39.8	2.0	-38.7	-13.0	-25.7	
5.0790	-8.1	V	5.0	39.8	3.0	-40.5	-13.0	-27.5	
1.6930	-10.5	H	3.0	38.2	1.0	-47.8	-13.0	-34.8	
2.5395	-13.9	H	3.0	38.9	1.0	-51.8	-13.0	-38.8	
3.3860	-11.5	H	3.0	39.5	1.0	-50.0	-13.0	-37.0	
4.2325	-6.8	H	3.0	39.8	1.0	-45.6	-13.0	-32.6	
5.0790	-9.8	H	3.0	39.8	1.0	-48.6	-13.0	-35.6	

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

LTE

Band 5

5MHz

16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 5MHz BW,16QAM

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 Channel (826.5MHz)									
1.6530	-2.2	V	3.0	38.2	1.0	-39.4	-13.0	-26.4	
2.4795	-15.4	V	3.0	38.8	1.0	-53.3	-13.0	-40.3	
3.3060	-10.2	V	3.0	39.4	1.0	-48.7	-13.0	-35.7	
4.1325	-5.9	V	3.0	39.8	1.0	-44.7	-13.0	-31.7	
4.9590	-9.6	V	3.0	39.8	1.0	-48.4	-13.0	-35.4	
1.6530	-12.1	H	3.0	38.2	1.0	-49.4	-13.0	-36.4	
2.4795	-16.1	H	3.0	38.8	1.0	-53.9	-13.0	-40.9	
3.3060	-12.5	H	3.0	39.4	1.0	-50.9	-13.0	-37.9	
4.1325	-9.6	H	3.0	39.8	1.0	-48.4	-13.0	-35.4	
4.9590	-11.5	H	3.0	39.8	1.0	-50.3	-13.0	-37.3	
Mid Channel (836.5MHz)									
1.6730	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8	
2.5095	-11.9	V	3.0	38.8	1.0	-49.7	-13.0	-36.7	
3.3460	-10.2	V	3.0	39.5	1.0	-48.7	-13.0	-35.7	
4.1825	-4.8	V	3.0	39.8	1.0	-43.6	-13.0	-30.6	
5.0190	-9.4	V	3.0	39.8	1.0	-48.2	-11.0	-37.2	
1.6730	-14.4	H	3.0	38.2	1.0	-51.6	-13.0	-38.6	
2.5095	-12.6	H	3.0	38.8	1.0	-50.5	-13.0	-37.5	
3.3460	-10.3	H	3.0	39.5	1.0	-48.7	-13.0	-35.7	
4.1825	-6.3	H	3.0	39.8	1.0	-45.1	-13.0	-32.1	
5.0190	-10.9	H	3.0	39.8	1.0	-49.7	-13.0	-36.7	
High Channel (846.5MHz)									
1.6930	-2.7	V	3.0	38.2	1.0	-39.9	-13.0	-26.9	
2.5395	-12.5	V	3.0	38.9	1.0	-50.4	-13.0	-37.4	
3.3860	-10.1	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
4.2325	-3.3	V	4.0	39.8	2.0	-38.6	-13.0	-25.6	
5.0790	-9.0	V	5.0	39.8	3.0	-41.3	-13.0	-28.3	
1.6930	-11.3	H	3.0	38.2	1.0	-48.5	-13.0	-35.5	
2.5395	-14.2	H	3.0	38.9	1.0	-52.1	-13.0	-39.1	
3.3860	-12.2	H	3.0	39.5	1.0	-50.7	-13.0	-37.7	
4.2325	-6.8	H	3.0	39.8	1.0	-45.6	-13.0	-32.6	
5.0790	-9.8	H	3.0	39.8	1.0	-48.6	-13.0	-35.6	

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

LTE

Band 5

3MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 3MHz BW,QPSK

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 Channel (825.5MHz)									
1.6510	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8	
2.4765	-15.1	V	3.0	38.8	1.0	-52.9	-13.0	-39.9	
3.3020	-11.8	V	3.0	39.4	1.0	-50.2	-13.0	-37.2	
4.1275	-8.2	V	3.0	39.8	1.0	-47.0	-13.0	-34.0	
4.9530	-9.6	V	3.0	39.8	1.0	-48.4	-13.0	-35.4	
1.6510	-11.0	H	3.0	38.2	1.0	-48.2	-13.0	-35.2	
2.4765	-15.8	H	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3020	-13.2	H	3.0	39.4	1.0	-51.6	-13.0	-38.6	
4.1275	-9.8	H	3.0	39.8	1.0	-48.7	-13.0	-35.7	
4.9530	-11.1	H	3.0	39.8	1.0	-49.9	-13.0	-36.9	
Mid Channel (836.5MHz)									
1.6730	-3.5	V	3.0	38.2	1.0	-40.7	-13.0	-27.7	
2.5095	-11.7	V	3.0	38.8	1.0	-49.5	-13.0	-36.5	
3.3460	-9.7	V	3.0	39.5	1.0	-48.1	-13.0	-35.1	
4.1825	-3.3	V	3.0	39.8	1.0	-42.1	-13.0	-29.1	
5.0190	-8.6	V	3.0	39.8	1.0	-47.4	-13.0	-34.4	
1.6730	-14.2	H	3.0	38.2	1.0	-51.5	-13.0	-38.5	
2.5095	-13.2	H	3.0	38.8	1.0	-51.1	-13.0	-38.1	
3.3460	-10.7	H	3.0	39.5	1.0	-49.2	-13.0	-36.2	
4.1825	-7.2	H	3.0	39.8	1.0	-46.0	-13.0	-33.0	
5.0190	-10.1	H	3.0	39.8	1.0	-48.9	-13.0	-35.9	
High Channel (847.5MHz)									
1.6950	-4.1	V	3.0	38.2	1.0	-41.4	-13.0	-28.4	
2.5425	-12.6	V	3.0	38.9	1.0	-50.5	-13.0	-37.5	
3.3900	-9.1	V	3.0	39.5	1.0	-47.5	-13.0	-34.5	
4.2375	-3.5	V	3.0	39.8	1.0	-42.3	-13.0	-29.3	
5.0850	-8.8	V	3.0	39.8	1.0	-47.6	-13.0	-34.6	
1.6950	-9.7	H	3.0	38.2	1.0	-47.0	-13.0	-34.0	
2.5425	-13.9	H	3.0	38.9	1.0	-51.8	-13.0	-38.8	
3.3900	-11.2	H	3.0	39.5	1.0	-49.7	-13.0	-36.7	
4.2375	-7.0	H	3.0	39.8	1.0	-45.8	-13.0	-32.8	
5.0850	-9.4	H	3.0	39.8	1.0	-48.1	-13.0	-35.1	

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

LTE

Band 5

3MHz

16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 3MHz BW,16QAM

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 Channel (825.5MHz)									
1.6510	-2.5	V	3.0	38.2	1.0	-39.7	-13.0	-26.7	
2.4765	-15.4	V	3.0	38.8	1.0	-53.2	-13.0	-40.2	
3.3020	-11.8	V	3.0	39.4	1.0	-50.2	-13.0	-37.2	
4.1275	-7.7	V	3.0	39.8	1.0	-46.6	-13.0	-33.6	
4.9530	-10.1	V	3.0	39.8	1.0	-48.9	-13.0	-35.9	
1.6510	-11.4	H	3.0	38.2	1.0	-48.7	-13.0	-35.7	
2.4765	-15.8	H	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3020	-13.0	H	3.0	39.4	1.0	-51.5	-13.0	-38.5	
4.1275	-10.2	H	3.0	39.8	1.0	-49.0	-13.0	-36.0	
4.9530		H	3.0	39.8	1.0	-38.8	-13.0	-25.8	
Mid Channel (836.5MHz)									
1.6730	-4.1	V	3.0	38.2	1.0	-41.3	-13.0	-28.3	
2.5095	-12.3	V	3.0	38.8	1.0	-50.2	-13.0	-37.2	
3.3460	-9.7	V	3.0	39.5	1.0	-48.2	-13.0	-35.2	
4.1825	-2.9	V	3.0	39.8	1.0	-41.7	-13.0	-28.7	
5.0190	-8.6	V	3.0	39.8	1.0	-47.4	-13.0	-34.4	
1.6730	-14.3	H	3.0	38.2	1.0	-51.5	-13.0	-38.5	
2.5095	-13.7	H	3.0	38.8	1.0	-51.6	-13.0	-38.6	
3.3460	-10.9	H	3.0	39.5	1.0	-49.4	-13.0	-36.4	
4.1825	-7.3	H	3.0	39.8	1.0	-46.1	-13.0	-33.1	
5.0190	-10.8	H	3.0	39.8	1.0	-49.6	-13.0	-36.6	
High Channel (847.5MHz)									
1.6950	-3.2	V	3.0	38.2	1.0	-40.5	-13.0	-27.5	
2.5425	-12.3	V	3.0	38.9	1.0	-50.2	-13.0	-37.2	
3.3900	-9.5	V	4.0	39.5	2.0	-44.5	-13.0	-31.5	
4.2375	-3.4	V	5.0	39.8	3.0	-35.8	-13.0	-22.8	
5.0850	-9.2	V	6.0	39.8	4.0	-39.0	-13.0	-26.0	
1.6950	-10.7	H	3.0	38.2	1.0	-48.0	-13.0	-35.0	
2.5425	-14.1	H	3.0	38.9	1.0	-51.9	-13.0	-38.9	
3.3900	-11.6	H	3.0	39.5	1.0	-50.1	-13.0	-37.1	
4.2375	-6.3	H	3.0	39.8	1.0	-45.1	-13.0	-32.1	
5.0850	-9.8	H	3.0	39.8	1.0	-48.5	-13.0	-35.5	

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

LTE

Band 5

1.4MHz

QPSK

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 1.4MHz BW,QPSK

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 Channel (824.7MHz)									
1.6494	-2.6	V	3.0	38.2	1.0	-39.8	-13.0	-26.8	
2.4741	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.2988	-12.2	V	3.0	39.4	1.0	-50.6	-13.0	-37.6	
4.1235	-10.2	V	3.0	39.8	1.0	-49.0	-13.0	-36.0	
4.9482	-11.3	V	3.0	39.8	1.0	-50.1	-13.0	-37.1	
1.6494	-10.3	H	3.0	38.2	1.0	-47.5	-13.0	-34.5	
2.4741	-15.8	H	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.2988	-13.9	H	3.0	39.4	1.0	-52.3	-13.0	-39.3	
4.1235	-11.1	H	3.0	39.8	1.0	-50.0	-13.0	-37.0	
4.9482	-11.2	H	3.0	39.8	1.0	-49.9	-13.0	-36.9	
Mid Channel (836.5MHz)									
1.6730	-2.8	V	3.0	38.2	1.0	-40.0	-13.0	-27.0	
2.5095	-12.5	V	3.0	38.8	1.0	-50.4	-13.0	-37.4	
3.3460	-9.7	V	3.0	39.5	1.0	-48.1	-13.0	-35.1	
4.1825	-2.2	V	3.0	39.8	1.0	-41.0	-13.0	-28.0	
5.0190	-8.9	V	3.0	39.8	1.0	-47.7	-13.0	-34.7	
1.6730	-13.9	H	3.0	38.2	1.0	-51.1	-13.0	-38.1	
2.5095	-13.8	H	3.0	38.8	1.0	-51.7	-13.0	-38.7	
3.3460	-9.7	H	3.0	39.5	1.0	-48.2	-13.0	-35.2	
4.1825	-7.8	H	3.0	39.8	1.0	-46.6	-13.0	-33.6	
5.0190	-10.6	H	3.0	39.8	1.0	-49.4	-13.0	-36.4	
High Channel (848.3MHz)									
1.6966	-5.2	V	3.0	38.2	1.0	-42.5	-13.0	-29.5	
2.5449	-11.6	V	3.0	38.9	1.0	-49.5	-13.0	-36.5	
3.3932	-9.5	V	3.0	39.5	1.0	-47.9	-13.0	-34.9	
4.2415	-4.6	V	4.0	39.8	1.0	-40.9	-13.0	-27.9	
5.0898	-9.9	V	5.0	39.8	1.0	-44.2	-13.0	-31.2	
1.6966	-11.3	H	3.0	38.2	1.0	-48.6	-13.0	-35.6	
2.5449	-12.5	H	3.0	38.9	1.0	-50.4	-13.0	-37.4	
3.3932	-11.8	H	3.0	39.5	1.0	-50.3	-13.0	-37.3	
4.2415	-7.7	H	3.0	39.8	1.0	-46.5	-13.0	-33.5	
5.0898	-11.3	H	3.0	39.8	1.0	-50.1	-13.0	-37.1	

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

LTE

Band 5

1.4MHz

16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788148881
Date: 09-22-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Earphone, X Position
Mode: TX, LTE BAND 5, 1.4MHz BW,16QAM

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 Channel (824.7MHz)									
1.6494	-2.9	V	3.0	38.2	1.0	-40.1	-13.0	-27.1	
2.4741	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.2988	-13.0	V	3.0	39.4	1.0	-51.5	-13.0	-38.5	
4.1235	-10.0	V	3.0	39.8	1.0	-48.8	-13.0	-35.8	
4.9482	-11.3	V	3.0	39.8	1.0	-50.1	-13.0	-37.1	
1.6494	-10.3	H	3.0	38.2	1.0	-47.5	-13.0	-34.5	
2.4741	-16.2	H	3.0	38.8	1.0	-54.0	-13.0	-41.0	
3.2988	-14.2	H	3.0	39.4	1.0	-52.6	-13.0	-39.6	
4.1235	-11.1	H	3.0	39.8	1.0	-49.9	-13.0	-36.9	
4.9482	-11.4	H	3.0	39.8	1.0	-50.2	-13.0	-37.2	
Mid Channel (836.5MHz)									
1.6730	-4.0	V	3.0	38.2	1.0	-41.2	-13.0	-28.2	
2.5095	-12.7	V	3.0	38.8	1.0	-50.5	-13.0	-37.5	
3.3460	-10.1	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
4.1825	-2.2	V	3.0	39.8	1.0	-41.0	-13.0	-28.0	
5.0190	-8.3	V	3.0	39.8	1.0	-47.1	-13.0	-34.1	
1.6730	-15.0	H	3.0	38.2	1.0	-52.2	-13.0	-39.2	
2.5095	-14.1	H	3.0	38.8	1.0	-51.9	-13.0	-38.9	
3.3460	-10.3	H	3.0	39.5	1.0	-48.7	-13.0	-35.7	
4.1825	-8.1	H	3.0	39.8	1.0	-46.9	-13.0	-33.9	
5.0190	-10.6	H	3.0	39.8	1.0	-49.4	-13.0	-36.4	
High Channel (848.3MHz)									
1.6966	-4.7	V	3.0	38.2	1.0	-41.9	-13.0	-28.9	
2.5449	-12.7	V	3.0	38.9	1.0	-50.6	-13.0	-37.6	
3.3932	-10.1	V	3.0	39.5	1.0	-48.6	-13.0	-35.6	
4.2415	-4.4	V	4.0	39.8	2.0	-39.7	-13.0	-26.7	
5.0898	-10.2	V	5.0	39.8	3.0	-42.5	-13.0	-29.5	
1.6966	-11.5	H	3.0	38.2	1.0	-48.7	-13.0	-35.7	
2.5449	-13.4	H	3.0	38.9	1.0	-51.3	-13.0	-38.3	
3.3932	-11.9	H	3.0	39.5	1.0	-50.4	-13.0	-37.4	
4.2415	-8.1	H	3.0	39.8	1.0	-46.9	-13.0	-33.9	
5.0898	-11.7	H	3.0	39.8	1.0	-50.5	-13.0	-37.5	

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

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_22/24/27
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

LTE Band 7

LTE Band 7 20MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2510 MHz)									
5.0200	-7.3	V	3.0	39.8	1.0	-46.1	-25.0	-21.1	
7.5300	5.4	V	3.0	39.4	1.0	-33.0	-25.0	-8.0	
10.0400	-0.7	V	3.0	38.6	1.0	-38.3	-25.0	-13.3	
5.0200	0.0	H	3.0	39.8	1.0	-38.8	-25.0	-13.8	
7.5300	4.7	H	3.0	39.4	1.0	-33.6	-25.0	-8.6	
10.0400	-8.8	H	3.0	38.6	1.0	-46.4	-25.0	-21.4	
Mid Ch, (2535 MHz)									
5.0700	-1.7	V	3.0	39.8	1.0	-40.5	-25.0	-15.5	
7.6050	0.4	V	3.0	39.3	1.0	-37.9	-25.0	-12.9	
10.1400	-5.2	V	3.0	38.6	1.0	-42.7	-25.0	-17.7	
5.0700	3.4	H	3.0	39.8	1.0	-35.4	-25.0	-10.4	
7.6050	0.6	H	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.1400	-9.1	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	
High Ch, (2560 MHz)									
5.1200	-5.7	V	3.0	39.8	1.0	-44.5	-25.0	-19.5	
7.6800	-1.4	V	3.0	39.3	1.0	-39.7	-25.0	-14.7	
10.2400	-7.2	V	3.0	38.6	1.0	-44.8	-25.0	-19.8	
5.1200	0.3	H	3.0	39.8	1.0	-38.6	-25.0	-13.6	
7.6800	-1.3	H	3.0	39.3	1.0	-39.6	-25.0	-14.6	
10.2400	-8.7	H	3.0	38.6	1.0	-46.2	-25.0	-21.2	

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

LTE Band 7 20MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2510 MHz)									
5.0200	-7.2	V	3.0	39.8	1.0	-45.9	-25.0	-20.9	
7.5300	5.4	V	3.0	39.4	1.0	-33.0	-25.0	-8.0	
10.0400	-1.0	V	3.0	38.6	1.0	-38.6	-25.0	-13.6	
5.0200	0.0	H	3.0	39.8	1.0	-38.7	-25.0	-13.7	
7.5300	5.9	H	3.0	39.4	1.0	-32.4	-25.0	-7.4	
10.0400	-9.3	H	3.0	38.6	1.0	-46.9	-25.0	-21.9	
Mid Ch, (2535 MHz)									
5.0700	-1.1	V	3.0	39.8	1.0	-39.8	-25.0	-14.8	
7.6050	0.6	V	3.0	39.3	1.0	-37.7	-25.0	-12.7	
10.1400	-4.4	V	3.0	38.6	1.0	-42.0	-25.0	-17.0	
5.0700	3.2	H	3.0	39.8	1.0	-35.6	-25.0	-10.6	
7.6050	0.5	H	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.1400	-9.6	H	3.0	38.6	1.0	-47.2	-25.0	-22.2	
High Ch, (2560 MHz)									
5.1200	-6.3	V	3.0	39.8	1.0	-45.1	-25.0	-20.1	
7.6800	-2.1	V	3.0	39.3	1.0	-40.4	-25.0	-15.4	
10.2400	-7.2	V	3.0	38.6	1.0	-44.7	-25.0	-19.7	
5.1200	0.3	H	3.0	39.8	1.0	-38.6	-25.0	-13.6	
7.6800	-1.2	H	3.0	39.3	1.0	-39.6	-25.0	-14.6	
10.2400	-9.0	H	3.0	38.6	1.0	-46.6	-25.0	-21.6	

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

LTE Band 7 15MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2507.5 MHz)									
5.0150	-5.1	V	3.0	39.8	1.0	-43.9	-25.0	-18.9	
7.5225	5.7	V	3.0	39.4	1.0	-32.7	-25.0	-7.7	
10.0300	-0.2	V	3.0	38.6	1.0	-37.7	-25.0	-12.7	
5.0150	0.2	H	3.0	39.8	1.0	-38.5	-25.0	-13.5	
7.5225	7.9	H	3.0	39.4	1.0	-30.5	-25.0	-5.5	
10.0300	-2.2	H	3.0	38.6	1.0	-39.8	-25.0	-14.8	
Mid Ch, (2535 MHz)									
5.0700	-0.8	V	3.0	39.8	1.0	-39.6	-25.0	-14.6	
7.6050	0.9	V	3.0	39.3	1.0	-37.5	-25.0	-12.5	
10.1400	-4.8	V	3.0	38.6	1.0	-42.3	-25.0	-17.3	
5.0700	3.7	H	3.0	39.8	1.0	-35.0	-25.0	-10.0	
7.6050	-0.3	H	3.0	39.3	1.0	-38.6	-25.0	-13.6	
10.1400	-8.9	H	3.0	38.6	1.0	-46.5	-25.0	-21.5	
High Ch, (2562.5 MHz)									
5.1250	-3.5	V	3.0	39.8	1.0	-42.3	-25.0	-17.3	
7.6875	-2.2	V	3.0	39.3	1.0	-40.5	-25.0	-15.5	
10.2500	-7.4	V	3.0	38.6	1.0	-45.0	-25.0	-20.0	
5.1250	2.1	H	3.0	39.8	1.0	-36.8	-25.0	-11.8	
7.6875	-3.4	H	3.0	39.3	1.0	-41.7	-25.0	-16.7	
10.2500	-9.2	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	

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

LTE Band 7 15MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2507.5 MHz)									
5.0150	-4.6	V	3.0	39.8	1.0	-43.4	-25.0	-18.4	
7.5225	5.2	V	3.0	39.4	1.0	-33.2	-25.0	-8.2	
10.0300	0.9	V	3.0	38.6	1.0	-36.7	-25.0	-11.7	
5.0150	0.3	H	3.0	39.8	1.0	-38.4	-25.0	-13.4	
7.5225	8.1	H	3.0	39.4	1.0	-30.3	-25.0	-5.3	
10.0300	-2.6	H	3.0	38.6	1.0	-40.2	-25.0	-15.2	
Mid Ch, (2535 MHz)									
5.0700	-0.4	V	3.0	39.8	1.0	-39.2	-25.0	-14.2	
7.6050	0.6	V	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.1400	-7.4	V	3.0	38.6	1.0	-44.9	-25.0	-19.9	
5.0700	3.9	H	3.0	39.8	1.0	-34.9	-25.0	-9.9	
7.6050	-1.5	H	3.0	39.3	1.0	-39.9	-25.0	-14.9	
10.1400	-9.8	H	3.0	38.6	1.0	-47.4	-25.0	-22.4	
High Ch, (2562.5 MHz)									
5.1250	-3.6	V	3.0	39.8	1.0	-42.4	-25.0	-17.4	
7.6875	-2.3	V	3.0	39.3	1.0	-40.6	-25.0	-15.6	
10.2500	-7.6	V	3.0	38.6	1.0	-45.2	-25.0	-20.2	
5.1250	1.9	H	3.0	39.8	1.0	-36.9	-25.0	-11.9	
7.6875	-3.1	H	3.0	39.3	1.0	-41.5	-25.0	-16.5	
10.2500	-9.4	H	3.0	38.6	1.0	-47.0	-25.0	-22.0	

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

LTE

Band 7

10MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2505 MHz)									
5.0100	-4.5	V	3.0	39.8	1.0	-43.2	-25.0	-18.2	
7.5150	4.9	V	3.0	39.4	1.0	-33.5	-25.0	-8.5	
10.0200	-0.9	V	3.0	38.6	1.0	-38.5	-25.0	-13.5	
5.0100	1.1	H	3.0	39.8	1.0	-37.7	-25.0	-12.7	
7.5150	-8.1	H	3.0	39.4	1.0	-46.5	-25.0	-21.5	
10.0200	-2.9	H	3.0	38.6	1.0	-40.5	-25.0	-15.5	
Mid Ch, (2535 MHz)									
5.0700	-5.2	V	3.0	39.8	1.0	-44.0	-25.0	-19.0	
7.6050	-0.1	V	3.0	39.3	1.0	-38.5	-25.0	-13.5	
10.1400	-5.5	V	3.0	38.6	1.0	-43.0	-25.0	-18.0	
5.0700	3.3	H	3.0	39.8	1.0	-35.5	-25.0	-10.5	
7.6050	-1.1	H	3.0	39.3	1.0	-39.4	-25.0	-14.4	
10.1400	-9.2	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	
High Ch, (2565 MHz)									
5.1300	-3.4	V	3.0	39.8	1.0	-42.2	-25.0	-17.2	
7.6950	-6.9	V	3.0	39.3	1.0	-45.2	-25.0	-20.2	
10.2600	-8.8	V	3.0	38.6	1.0	-46.4	-25.0	-21.4	
5.1300	2.6	H	3.0	39.8	1.0	-36.2	-25.0	-11.2	
7.6950	-4.4	H	3.0	39.3	1.0	-42.7	-25.0	-17.7	
10.2600	-9.3	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	

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

LTE

Band 7

10MHz

16QAM

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2505 MHz)									
5.0100	-3.7	V	3.0	39.8	1.0	-42.5	-25.0	-17.5	
7.5150	6.0	V	3.0	39.4	1.0	-32.3	-25.0	-7.3	
10.0200	-1.0	V	3.0	38.6	1.0	-38.6	-25.0	-13.6	
5.0100	1.3	H	3.0	39.8	1.0	-37.4	-25.0	-12.4	
7.5150	-8.1	H	3.0	39.4	1.0	-46.5	-25.0	-21.5	
10.0200	-2.6	H	3.0	38.6	1.0	-40.1	-25.0	-15.1	
Mid Ch, (2535 MHz)									
5.0700	-4.1	V	3.0	39.8	1.0	-42.9	-25.0	-17.9	
7.6050	2.2	V	3.0	39.3	1.0	-36.1	-25.0	-11.1	
10.1400	-3.8	V	3.0	38.6	1.0	-41.4	-25.0	-16.4	
5.0700	3.5	H	3.0	39.8	1.0	-35.3	-25.0	-10.3	
7.6050	-0.2	H	3.0	39.3	1.0	-38.5	-25.0	-13.5	
10.1400	-8.5	H	3.0	38.6	1.0	-46.1	-25.0	-21.1	
High Ch, (2565 MHz)									
5.1300	-2.5	V	3.0	39.8	1.0	-41.3	-25.0	-16.3	
7.6950	-6.3	V	3.0	39.3	1.0	-44.6	-25.0	-19.6	
10.2600	-8.2	V	3.0	38.6	1.0	-45.8	-25.0	-20.8	
5.1300	2.5	H	3.0	39.8	1.0	-36.3	-25.0	-11.3	
7.6950	-4.0	H	3.0	39.3	1.0	-42.3	-25.0	-17.3	
10.2600	-9.5	H	3.0	38.6	1.0	-47.1	-25.0	-22.1	

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

LTE

Band 7

5MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 5MHz 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, (2502.5 MHz)									
5.0050	-5.9	V	3.0	39.8	1.0	-44.7	-25.0	-19.7	
7.5075	2.4	V	3.0	39.4	1.0	-36.0	-25.0	-11.0	
10.0100	-2.8	V	3.0	38.6	1.0	-40.3	-25.0	-15.3	
5.0050	1.1	H	3.0	39.8	1.0	-37.6	-25.0	-12.6	
7.5075	8.1	H	3.0	39.4	1.0	-30.3	-25.0	-5.3	
10.0100	-4.5	H	3.0	38.6	1.0	-42.1	-25.0	-17.1	
Mid Ch, (2535 MHz)									
5.0700	-1.6	V	3.0	39.8	1.0	-40.3	-25.0	-15.3	
7.6050	0.6	V	3.0	39.3	1.0	-37.7	-25.0	-12.7	
10.1400	-5.4	V	3.0	38.6	1.0	-42.9	-25.0	-17.9	
5.0700	3.5	H	3.0	39.8	1.0	-35.3	-25.0	-10.3	
7.6050	0.6	H	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.1400	-9.0	H	3.0	38.6	1.0	-46.5	-25.0	-21.5	
High Ch, (2567.5 MHz)									
5.1350	-1.9	V	3.0	39.8	1.0	-40.7	-25.0	-15.7	
7.7025	-8.6	V	3.0	39.3	1.0	-46.9	-25.0	-21.9	
10.2700	-9.5	V	3.0	38.6	1.0	-47.0	-25.0	-22.0	
5.1350	2.8	H	3.0	39.8	1.0	-36.0	-25.0	-11.0	
7.7025	-2.1	H	3.0	39.3	1.0	-40.4	-25.0	-15.4	
10.2700	-9.1	H	3.0	38.6	1.0	-46.6	-25.0	-21.6	

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

LTE

Band 7

5MHz

16QAM

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

Company: Samsung
Project #: 4788148881
Date: 09-15-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 5MHz 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, (2502.5 MHz)									
5.0050	-4.6	V	3.0	39.8	1.0	-43.4	-25.0	-18.4	
7.5075	2.9	V	3.0	39.4	1.0	-35.5	-25.0	-10.5	
10.0100	-2.5	V	3.0	38.6	1.0	-40.1	-25.0	-15.1	
5.0050	1.4	H	3.0	39.8	1.0	-37.4	-25.0	-12.4	
7.5075	8.2	H	3.0	39.4	1.0	-30.2	-25.0	-5.2	
10.0100	-5.4	H	3.0	38.6	1.0	-42.9	-25.0	-17.9	
Mid Ch, (2535 MHz)									
5.0700	-0.6	V	3.0	39.8	1.0	-39.4	-25.0	-14.4	
7.6050	0.1	V	3.0	39.3	1.0	-38.3	-25.0	-13.3	
10.1400	-4.9	V	3.0	38.6	1.0	-42.5	-25.0	-17.5	
5.0700	3.8	H	3.0	39.8	1.0	-35.0	-25.0	-10.0	
7.6050	0.1	H	3.0	39.3	1.0	-38.3	-25.0	-13.3	
10.1400	-9.5	H	3.0	38.6	1.0	-47.1	-25.0	-22.1	
High Ch, (2567.5 MHz)									
5.1350	-1.7	V	3.0	39.8	1.0	-40.5	-25.0	-15.5	
7.7025	-7.8	V	3.0	39.3	1.0	-46.1	-25.0	-21.1	
10.2700	-8.7	V	3.0	38.6	1.0	-46.3	-25.0	-21.3	
5.1350	3.1	H	3.0	39.8	1.0	-35.8	-25.0	-10.8	
7.7025	-2.5	H	3.0	39.3	1.0	-40.8	-25.0	-15.8	
10.2700	-9.5	H	3.0	38.6	1.0	-47.1	-25.0	-22.1	

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

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_22/24/27
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

LTE Band 7(with Protective cover)

LTE Band 7 20MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2510 MHz)									
5.0200	-3.0	V	3.0	39.8	1.0	-41.8	-25.0	-16.8	
7.5300	2.1	V	3.0	39.4	1.0	-36.3	-25.0	-11.3	
10.0400	-0.5	V	3.0	38.6	1.0	-38.0	-25.0	-13.0	
5.0200	-0.9	H	3.0	39.8	1.0	-39.7	-25.0	-14.7	
7.5300	5.4	H	3.0	39.4	1.0	-33.0	-25.0	-8.0	
10.0400	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
Mid Ch, (2535 MHz)									
5.0700	-0.6	V	3.0	39.8	1.0	-39.4	-25.0	-14.4	
7.6050	0.9	V	3.0	39.3	1.0	-37.5	-25.0	-12.5	
10.1400	-3.7	V	3.0	38.6	1.0	-41.2	-25.0	-16.2	
5.0700	2.8	H	3.0	39.8	1.0	-36.0	-25.0	-11.0	
7.6050	4.7	H	3.0	39.3	1.0	-33.6	-25.0	-8.6	
10.1400	-5.5	H	3.0	38.6	1.0	-43.1	-25.0	-18.1	
High Ch, (2560 MHz)									
5.1200	-1.4	V	3.0	39.8	1.0	-40.2	-25.0	-15.2	
7.6800	-4.9	V	3.0	39.3	1.0	-43.2	-25.0	-18.2	
10.2400	-5.0	V	3.0	38.6	1.0	-42.6	-25.0	-17.6	
5.1200	2.7	H	3.0	39.8	1.0	-36.1	-25.0	-11.1	
7.6800	-1.8	H	3.0	39.3	1.0	-40.1	-25.0	-15.1	
10.2400	-9.3	H	3.0	38.6	1.0	-46.9	-25.0	-21.9	

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

LTE Band 7 20MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2510 MHz)									
5.0200	-2.7	V	3.0	39.8	1.0	-41.4	-25.0	-16.4	
7.5300	2.4	V	3.0	39.4	1.0	-36.0	-25.0	-11.0	
10.0400	-0.7	V	3.0	38.6	1.0	-38.3	-25.0	-13.3	
5.0200	-0.8	H	3.0	39.8	1.0	-39.5	-25.0	-14.5	
7.5300	4.9	H	3.0	39.4	1.0	-33.5	-25.0	-8.5	
10.0400	-5.9	H	3.0	38.6	1.0	-43.5	-25.0	-18.5	
Mid Ch, (2535 MHz)									
5.0700	-0.2	V	3.0	39.8	1.0	-39.0	-25.0	-14.0	
7.6050	0.0	V	3.0	39.3	1.0	-38.4	-25.0	-13.4	
10.1400	-5.8	V	3.0	38.6	1.0	-43.4	-25.0	-18.4	
5.0700	2.9	H	3.0	39.8	1.0	-35.9	-25.0	-10.9	
7.6050	3.7	H	3.0	39.3	1.0	-34.7	-25.0	-9.7	
10.1400	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
High Ch, (2560 MHz)									
5.1200	-1.2	V	3.0	39.8	1.0	-40.0	-25.0	-15.0	
7.6800	-4.7	V	3.0	39.3	1.0	-43.0	-25.0	-18.0	
10.2400	-4.6	V	3.0	38.6	1.0	-42.1	-25.0	-17.1	
5.1200	2.7	H	3.0	39.8	1.0	-36.1	-25.0	-11.1	
7.6800	-2.5	H	3.0	39.3	1.0	-40.8	-25.0	-15.8	
10.2400	-9.5	H	3.0	38.6	1.0	-47.1	-25.0	-22.1	

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

LTE Band 7 15MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2507.5 MHz)									
5.0150	-3.9	V	3.0	39.8	1.0	-42.7	-25.0	-17.7	
7.5225	-0.1	V	3.0	39.4	1.0	-38.5	-25.0	-13.5	
10.0300	-1.2	V	3.0	38.6	1.0	-38.8	-25.0	-13.8	
5.0150	2.0	H	3.0	39.8	1.0	-36.8	-25.0	-11.8	
7.5225	7.3	H	3.0	39.4	1.0	-31.1	-25.0	-6.1	
10.0300	-5.8	H	3.0	38.6	1.0	-43.4	-25.0	-18.4	
Mid Ch, (2535 MHz)									
5.0700	0.0	V	3.0	39.8	1.0	-38.8	-25.0	-13.8	
7.6050	0.6	V	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.1400	-3.2	V	3.0	38.6	1.0	-40.7	-25.0	-15.7	
5.0700	3.2	H	3.0	39.8	1.0	-35.6	-25.0	-10.6	
7.6050	5.5	H	3.0	39.3	1.0	-32.8	-25.0	-7.8	
10.1400	-3.7	H	3.0	38.6	1.0	-41.3	-25.0	-16.3	
High Ch, (2562.5 MHz)									
5.1250	-2.7	V	3.0	39.8	1.0	-41.5	-25.0	-16.5	
7.6875	-3.6	V	3.0	39.3	1.0	-41.9	-25.0	-16.9	
10.2500	-6.0	V	3.0	38.6	1.0	-43.5	-25.0	-18.5	
5.1250	2.8	H	3.0	39.8	1.0	-36.0	-25.0	-11.0	
7.6875	-0.4	H	3.0	39.3	1.0	-38.7	-25.0	-13.7	
10.2500	-8.9	H	3.0	38.6	1.0	-46.5	-25.0	-21.5	

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

LTE Band 7 15MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2507.5 MHz)									
5.0150	-3.0	V	3.0	39.8	1.0	-41.8	-25.0	-16.8	
7.5225	0.9	V	3.0	39.4	1.0	-37.5	-25.0	-12.5	
10.0300	-1.6	V	3.0	38.6	1.0	-39.1	-25.0	-14.1	
5.0150	2.1	H	3.0	39.8	1.0	-36.7	-25.0	-11.7	
7.5225	6.9	H	3.0	39.4	1.0	-31.5	-25.0	-6.5	
10.0300	-6.0	H	3.0	38.6	1.0	-43.6	-25.0	-18.6	
Mid Ch, (2535 MHz)									
5.0700	0.8	V	3.0	39.8	1.0	-38.0	-25.0	-13.0	
7.6050	0.9	V	3.0	39.3	1.0	-37.4	-25.0	-12.4	
10.1400	-3.4	V	3.0	38.6	1.0	-41.0	-25.0	-16.0	
5.0700	3.4	H	3.0	39.8	1.0	-35.4	-25.0	-10.4	
7.6050	5.8	H	3.0	39.3	1.0	-32.5	-25.0	-7.5	
10.1400	-5.1	H	3.0	38.6	1.0	-42.6	-25.0	-17.6	
High Ch, (2562.5 MHz)									
5.1250	-2.1	V	3.0	39.8	1.0	-40.9	-25.0	-15.9	
7.6875	-4.6	V	3.0	39.3	1.0	-42.9	-25.0	-17.9	
10.2500	-7.2	V	3.0	38.6	1.0	-44.7	-25.0	-19.7	
5.1250	3.4	H	3.0	39.8	1.0	-35.4	-25.0	-10.4	
7.6875	-0.8	H	3.0	39.3	1.0	-39.1	-25.0	-14.1	
10.2500	-9.2	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	

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

LTE Band 7 10MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2505 MHz)									
5.0100	-2.6	V	3.0	39.8	1.0	-41.4	-25.0	-16.4	
7.5150	5.1	V	3.0	39.4	1.0	-33.3	-25.0	-8.3	
10.0200	-0.1	V	3.0	38.6	1.0	-37.6	-25.0	-12.6	
5.0100	0.9	H	3.0	39.8	1.0	-37.9	-25.0	-12.9	
7.5150	8.5	H	3.0	39.4	1.0	-29.9	-25.0	-4.9	
10.0200	-3.2	H	3.0	38.6	1.0	-40.8	-25.0	-15.8	
Mid Ch, (2535 MHz)									
5.0700	-0.8	V	3.0	39.8	1.0	-39.6	-25.0	-14.6	
7.6050	2.7	V	3.0	39.3	1.0	-35.7	-25.0	-10.7	
10.1400	-3.1	V	3.0	38.6	1.0	-40.7	-25.0	-15.7	
5.0700	1.9	H	3.0	39.8	1.0	-36.9	-25.0	-11.9	
7.6050	6.2	H	3.0	39.3	1.0	-32.1	-25.0	-7.1	
10.1400	-4.6	H	3.0	38.6	1.0	-42.2	-25.0	-17.2	
High Ch, (2565 MHz)									
5.1300	-1.4	V	3.0	39.8	1.0	-40.2	-25.0	-15.2	
7.6950	-1.1	V	3.0	39.3	1.0	-39.4	-25.0	-14.4	
10.2600	-4.9	V	3.0	38.6	1.0	-42.5	-25.0	-17.5	
5.1300	4.1	H	3.0	39.8	1.0	-34.7	-25.0	-9.7	
7.6950	1.6	H	3.0	39.3	1.0	-36.7	-25.0	-11.7	
10.2600	-9.0	H	3.0	38.6	1.0	-46.6	-25.0	-21.6	

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

LTE Band 7 10MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 10-12-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 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, (2505 MHz)									
5.0100	-2.2	V	3.0	39.8	1.0	-41.0	-25.0	-16.0	
7.5150	4.8	V	3.0	39.4	1.0	-33.6	-25.0	-8.6	
10.0200	-0.4	V	3.0	38.6	1.0	-38.0	-25.0	-13.0	
5.0100	1.3	H	3.0	39.8	1.0	-37.5	-25.0	-12.5	
7.5150	8.0	H	3.0	39.4	1.0	-30.4	-25.0	-5.4	
10.0200	-3.6	H	3.0	38.6	1.0	-41.1	-25.0	-16.1	
Mid Ch, (2535 MHz)									
5.0700	-0.9	V	3.0	39.8	1.0	-39.7	-25.0	-14.7	
7.6050	2.2	V	3.0	39.3	1.0	-36.2	-25.0	-11.2	
10.1400	-3.5	V	3.0	38.6	1.0	-41.0	-25.0	-16.0	
5.0700	2.7	H	3.0	39.8	1.0	-36.1	-25.0	-11.1	
7.6050	6.2	H	3.0	39.3	1.0	-32.1	-25.0	-7.1	
10.1400	-4.6	H	3.0	38.6	1.0	-42.1	-25.0	-17.1	
High Ch, (2565 MHz)									
5.1300	-1.0	V	3.0	39.8	1.0	-39.8	-25.0	-14.8	
7.6950	-2.1	V	3.0	39.3	1.0	-40.4	-25.0	-15.4	
10.2600	-6.3	V	3.0	38.6	1.0	-43.8	-25.0	-18.8	
5.1300	4.6	H	3.0	39.8	1.0	-34.2	-25.0	-9.2	
7.6950	1.5	H	3.0	39.3	1.0	-36.8	-25.0	-11.8	
10.2600	-9.2	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	

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

LTE Band 7 5MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 5MHz 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, (2502.5 MHz)									
5.0050	-1.4	V	3.0	39.8	1.0	-40.2	-25.0	-15.2	
7.5075	7.2	V	3.0	39.4	1.0	-31.2	-25.0	-6.2	
10.0100	-3.1	V	3.0	38.6	1.0	-40.7	-25.0	-15.7	
5.0050	0.4	H	3.0	39.8	1.0	-38.3	-25.0	-13.3	
7.5075	9.4	H	3.0	39.4	1.0	-29.0	-25.0	-4.0	
10.0100	-5.5	H	3.0	38.6	1.0	-43.1	-25.0	-18.1	
Mid Ch, (2535 MHz)									
5.0700	-0.6	V	3.0	39.8	1.0	-39.4	-25.0	-14.4	
7.6050	2.4	V	3.0	39.3	1.0	-36.0	-25.0	-11.0	
10.1400	-4.1	V	3.0	38.6	1.0	-41.6	-25.0	-16.6	
5.0700	1.7	H	3.0	39.8	1.0	-37.1	-25.0	-12.1	
7.6050	5.3	H	3.0	39.3	1.0	-33.1	-25.0	-8.1	
10.1400	-5.9	H	3.0	38.6	1.0	-43.4	-25.0	-18.4	
High Ch, (2567.5 MHz)									
5.1350	-3.4	V	3.0	39.8	1.0	-42.2	-25.0	-17.2	
7.7025	0.5	V	3.0	39.3	1.0	-37.8	-25.0	-12.8	
10.2700	-6.1	V	3.0	38.6	1.0	-43.6	-25.0	-18.6	
5.1350	3.9	H	3.0	39.8	1.0	-34.9	-25.0	-9.9	
7.7025	0.0	H	3.0	39.3	1.0	-38.3	-25.0	-13.3	
10.2700	-7.4	H	3.0	38.6	1.0	-44.9	-25.0	-19.9	

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

LTE Band 7 5MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 7, 5MHz 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, (2502.5 MHz)									
5.0050	-2.5	V	3.0	39.8	1.0	-41.3	-25.0	-16.3	
7.5075	7.0	V	3.0	39.4	1.0	-31.4	-25.0	-6.4	
10.0100	-1.7	V	3.0	38.6	1.0	-39.3	-25.0	-14.3	
5.0050	0.5	H	3.0	39.8	1.0	-38.2	-25.0	-13.2	
7.5075	9.4	H	3.0	39.4	1.0	-29.0	-25.0	-4.0	
10.0100	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
Mid Ch, (2535 MHz)									
5.0700	-0.9	V	3.0	39.8	1.0	-39.7	-25.0	-14.7	
7.6050	3.1	V	3.0	39.3	1.0	-35.3	-25.0	-10.3	
10.1400	-4.3	V	3.0	38.6	1.0	-41.9	-25.0	-16.9	
5.0700	1.6	H	3.0	39.8	1.0	-37.2	-25.0	-12.2	
7.6050	4.9	H	3.0	39.3	1.0	-33.5	-25.0	-8.5	
10.1400	-6.3	H	3.0	38.6	1.0	-43.9	-25.0	-18.9	
High Ch, (2567.5 MHz)									
5.1350	-3.1	V	3.0	39.8	1.0	-41.9	-25.0	-16.9	
7.7025	0.3	V	3.0	39.3	1.0	-38.1	-25.0	-13.1	
10.2700	-6.5	V	3.0	38.6	1.0	-44.1	-25.0	-19.1	
5.1350	3.9	H	3.0	39.8	1.0	-34.9	-25.0	-9.9	
7.7025	0.0	H	3.0	39.3	1.0	-38.3	-25.0	-13.3	
10.2700	-8.5	H	3.0	38.6	1.0	-46.1	-25.0	-21.1	

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 #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.7	V	3.0	39.8	1.0	-42.5	-25.0	-17.5	
7.6950	-0.3	V	3.0	39.3	1.0	-38.6	-25.0	-13.6	
10.2600	-9.0	V	3.0	38.6	1.0	-46.5	-25.0	-21.5	
5.1300	2.1	H	3.0	39.8	1.0	-36.7	-25.0	-11.7	
7.6950	-0.8	H	3.0	39.3	1.0	-39.1	-25.0	-14.1	
10.2600	-8.6	H	3.0	38.6	1.0	-46.2	-25.0	-21.2	
Mid Ch, (2605 MHz)									
5.2100	-5.2	V	3.0	39.8	1.0	-44.1	-25.0	-19.1	
7.8150	-5.4	V	3.0	39.3	1.0	-43.6	-25.0	-18.6	
10.4200	-7.1	V	3.0	38.5	1.0	-44.6	-25.0	-19.6	
5.2100	0.7	H	3.0	39.8	1.0	-38.1	-25.0	-13.1	
7.8150	-2.4	H	3.0	39.3	1.0	-40.7	-25.0	-15.7	
10.4200	-9.8	H	3.0	38.5	1.0	-47.3	-25.0	-22.3	
High Ch, (2645 MHz)									
5.2900	-5.7	V	3.0	39.9	1.0	-44.6	-25.0	-19.6	
7.9350	-4.6	V	3.0	39.2	1.0	-42.8	-25.0	-17.8	
10.5800	-3.9	V	3.0	38.5	1.0	-41.4	-25.0	-16.4	
5.2900	1.1	H	3.0	39.9	1.0	-37.8	-25.0	-12.8	
7.9350	0.3	H	3.0	39.2	1.0	-37.9	-25.0	-12.9	
10.5800	-9.1	H	3.0	38.5	1.0	-46.7	-25.0	-21.7	

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

LTE Band 41 20MHz 16QAM

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

Company: Samsung
Project #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.1	V	3.0	39.8	1.0	-41.9	-25.0	-16.9	
7.6950	-2.0	V	3.0	39.3	1.0	-40.3	-25.0	-15.3	
10.2600	-9.0	V	3.0	38.6	1.0	-46.6	-25.0	-21.6	
5.1300	1.8	H	3.0	39.8	1.0	-37.0	-25.0	-12.0	
7.6950	-1.3	H	3.0	39.3	1.0	-39.6	-25.0	-14.6	
10.2600	-9.3	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	
Mid Ch, (2605 MHz)									
5.2100	-4.7	V	3.0	39.8	1.0	-43.5	-25.0	-18.5	
7.8150	-5.0	V	3.0	39.3	1.0	-43.3	-25.0	-18.3	
10.4200	-8.9	V	3.0	38.5	1.0	-46.4	-25.0	-21.4	
5.2100	0.4	H	3.0	39.8	1.0	-38.4	-25.0	-13.4	
7.8150	-2.7	H	3.0	39.3	1.0	-40.9	-25.0	-15.9	
10.4200	-9.5	H	3.0	38.5	1.0	-47.1	-25.0	-22.1	
High Ch, (2645 MHz)									
5.2900	-5.5	V	3.0	39.9	1.0	-44.4	-25.0	-19.4	
7.9350	-4.4	V	3.0	39.2	1.0	-42.6	-25.0	-17.6	
10.5800	-3.3	V	3.0	38.5	1.0	-40.8	-25.0	-15.8	
5.2900	1.2	H	3.0	39.9	1.0	-37.6	-25.0	-12.6	
7.9350	0.5	H	3.0	39.2	1.0	-37.7	-25.0	-12.7	
10.5800	-9.3	H	3.0	38.5	1.0	-46.8	-25.0	-21.8	

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

LTE

Band 41

15MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.6	V	3.0	39.8	1.0	-42.4	-25.0	-17.4	
7.6875	-0.2	V	3.0	39.3	1.0	-38.5	-25.0	-13.5	
10.2500	-8.7	V	3.0	38.6	1.0	-46.2	-25.0	-21.2	
5.1250	2.2	H	3.0	39.8	1.0	-36.6	-25.0	-11.6	
7.6875	1.9	H	3.0	39.3	1.0	-36.4	-25.0	-11.4	
10.2500	-9.2	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	
Mid Ch, (2605 MHz)									
5.2100	-6.4	V	3.0	39.8	1.0	-45.2	-25.0	-20.2	
7.8150	-1.8	V	3.0	39.3	1.0	-40.1	-25.0	-15.1	
10.4200	-5.5	V	3.0	38.5	1.0	-43.0	-25.0	-18.0	
5.2100	2.4	H	3.0	39.8	1.0	-36.4	-25.0	-11.4	
7.8150	-1.9	H	3.0	39.3	1.0	-40.2	-25.0	-15.2	
10.4200	-9.4	H	3.0	38.5	1.0	-47.0	-25.0	-22.0	
High Ch, (2647.5 MHz)									
5.2950	-5.9	V	3.0	39.9	1.0	-44.8	-25.0	-19.8	
7.9425	-4.6	V	3.0	39.2	1.0	-42.8	-25.0	-17.8	
10.5900	-3.6	V	3.0	38.5	1.0	-41.1	-25.0	-16.1	
5.2950	2.4	H	3.0	39.9	1.0	-36.5	-25.0	-11.5	
7.9425	-2.8	H	3.0	39.2	1.0	-41.0	-25.0	-16.0	
10.5900	-9.1	H	3.0	38.5	1.0	-46.6	-25.0	-21.6	

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 #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-2.2	V	3.0	39.8	1.0	-41.0	-25.0	-16.0	
7.6875	0.2	V	3.0	39.3	1.0	-38.1	-25.0	-13.1	
10.2500	-8.7	V	3.0	38.6	1.0	-46.2	-25.0	-21.2	
5.1250	2.5	H	3.0	39.8	1.0	-36.3	-25.0	-11.3	
7.6875	1.6	H	3.0	39.3	1.0	-36.7	-25.0	-11.7	
10.2500	-8.9	H	3.0	38.6	1.0	-46.5	-25.0	-21.5	
Mid Ch, (2605 MHz)									
5.2100	-6.3	V	3.0	39.8	1.0	-45.1	-25.0	-20.1	
7.8150	-2.5	V	3.0	39.3	1.0	-40.7	-25.0	-15.7	
10.4200	-5.6	V	3.0	38.5	1.0	-43.1	-25.0	-18.1	
5.2100	2.1	H	3.0	39.8	1.0	-36.7	-25.0	-11.7	
7.8150	-2.0	H	3.0	39.3	1.0	-40.3	-25.0	-15.3	
10.4200	-9.1	H	3.0	38.5	1.0	-46.6	-25.0	-21.6	
High Ch, (2647.5 MHz)									
5.2950	-5.7	V	3.0	39.9	1.0	-44.5	-25.0	-19.5	
7.9425	-4.6	V	3.0	39.2	1.0	-42.8	-25.0	-17.8	
10.5900	-4.3	V	3.0	38.5	1.0	-41.8	-25.0	-16.8	
5.2950	1.9	H	3.0	39.9	1.0	-36.9	-25.0	-11.9	
7.9425	-2.4	H	3.0	39.2	1.0	-40.6	-25.0	-15.6	
10.5900	-8.9	H	3.0	38.5	1.0	-46.4	-25.0	-21.4	

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 #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-4.5	V	3.0	39.8	1.0	-43.3	-25.0	-18.3	
7.6800	-1.4	V	3.0	39.3	1.0	-39.7	-25.0	-14.7	
10.2400	-3.8	V	3.0	38.6	1.0	-41.4	-25.0	-16.4	
5.1200	0.0	H	3.0	39.8	1.0	-38.9	-25.0	-13.9	
7.6800	-0.9	H	3.0	39.3	1.0	-39.2	-25.0	-14.2	
10.2400	-8.2	H	3.0	38.6	1.0	-45.8	-25.0	-20.8	
Mid Ch, (2605 MHz)									
5.2100	-7.0	V	3.0	39.8	1.0	-45.8	-25.0	-20.8	
7.8150	-2.5	V	3.0	39.3	1.0	-40.7	-25.0	-15.7	
10.4200	-5.6	V	3.0	38.5	1.0	-43.2	-25.0	-18.2	
5.2100	0.2	H	3.0	39.8	1.0	-38.7	-25.0	-13.7	
7.8150	-4.2	H	3.0	39.3	1.0	-42.5	-25.0	-17.5	
10.4200	-8.4	H	3.0	38.5	1.0	-46.0	-25.0	-21.0	
High Ch, (2650 MHz)									
5.3000	-5.3	V	3.0	39.9	1.0	-44.1	-25.0	-19.1	
7.9500	-3.2	V	3.0	39.2	1.0	-41.4	-25.0	-16.4	
10.6000	-5.0	V	3.0	38.5	1.0	-42.5	-25.0	-17.5	
5.3000	2.0	H	3.0	39.9	1.0	-36.8	-25.0	-11.8	
7.9500	0.0	H	3.0	39.2	1.0	-38.2	-25.0	-13.2	
10.6000	-8.6	H	3.0	38.5	1.0	-46.1	-25.0	-21.1	

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 #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-4.6	V	3.0	39.8	1.0	-43.4	-25.0	-18.4	
7.6800	-2.6	V	3.0	39.3	1.0	-40.9	-25.0	-15.9	
10.2400	-5.4	V	3.0	38.6	1.0	-43.0	-25.0	-18.0	
5.1200	-0.2	H	3.0	39.8	1.0	-39.0	-25.0	-14.0	
7.6800	-1.2	H	3.0	39.3	1.0	-39.6	-25.0	-14.6	
10.2400	-8.2	H	3.0	38.6	1.0	-45.8	-25.0	-20.8	
Mid Ch, (2605 MHz)									
5.2100	-6.8	V	3.0	39.8	1.0	-45.7	-25.0	-20.7	
7.8150	-1.7	V	3.0	39.3	1.0	-40.0	-25.0	-15.0	
10.4200	-6.2	V	3.0	38.5	1.0	-43.7	-25.0	-18.7	
5.2100	0.5	H	3.0	39.8	1.0	-38.3	-25.0	-13.3	
7.8150	-3.8	H	3.0	39.3	1.0	-42.0	-25.0	-17.0	
10.4200	-9.4	H	3.0	38.5	1.0	-47.0	-25.0	-22.0	
High Ch, (2650 MHz)									
5.3000	-5.2	V	3.0	39.9	1.0	-44.1	-25.0	-19.1	
7.9500	-4.1	V	3.0	39.2	1.0	-42.3	-25.0	-17.3	
10.6000	-4.8	V	3.0	38.5	1.0	-42.3	-25.0	-17.3	
5.3000	2.7	H	3.0	39.9	1.0	-36.2	-25.0	-11.2	
7.9500	-0.1	H	3.0	39.2	1.0	-38.3	-25.0	-13.3	
10.6000	-8.1	H	3.0	38.5	1.0	-45.6	-25.0	-20.6	

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

LTE

Band 41

5MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 41, 5MHz 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, (2557.5 MHz)									
5.1150	-5.3	V	3.0	39.8	1.0	-44.1	-25.0	-19.1	
7.6725	-2.0	V	3.0	39.3	1.0	-40.3	-25.0	-15.3	
10.2300	-8.6	V	3.0	38.6	1.0	-46.1	-25.0	-21.1	
5.1150	-0.1	H	3.0	39.8	1.0	-38.9	-25.0	-13.9	
7.6725	1.5	H	3.0	39.3	1.0	-36.8	-25.0	-11.8	
10.2300	-9.5	H	3.0	38.6	1.0	-47.1	-25.0	-22.1	
Mid Ch, (2605 MHz)									
5.2100	-5.2	V	3.0	39.8	1.0	-44.0	-25.0	-19.0	
7.8150	-3.6	V	3.0	39.3	1.0	-41.8	-25.0	-16.8	
10.4200	-6.9	V	3.0	38.5	1.0	-44.4	-25.0	-19.4	
5.2100	1.0	H	3.0	39.8	1.0	-37.9	-25.0	-12.9	
7.8150	-2.4	H	3.0	39.3	1.0	-40.7	-25.0	-15.7	
10.4200	-8.8	H	3.0	38.5	1.0	-46.3	-25.0	-21.3	
High Ch, (2652.5 MHz)									
5.3050	-4.5	V	3.0	39.9	1.0	-43.4	-25.0	-18.4	
7.9575	-3.2	V	3.0	39.2	1.0	-41.4	-25.0	-16.4	
10.6100	-4.9	V	3.0	38.5	1.0	-42.5	-25.0	-17.5	
5.3050	1.6	H	3.0	39.9	1.0	-37.3	-25.0	-12.3	
7.9575	-0.5	H	3.0	39.2	1.0	-38.7	-25.0	-13.7	
10.6100	-8.4	H	3.0	38.5	1.0	-46.0	-25.0	-21.0	

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 #: 4788148881
Date: 09-18-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 41, 5MHz 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, (2557.5 MHz)									
5.1150	-4.7	V	3.0	39.8	1.0	-43.5	-25.0	-18.5	
7.6725	-3.1	V	3.0	39.3	1.0	-41.4	-25.0	-16.4	
10.2300	-9.4	V	3.0	38.6	1.0	-47.0	-25.0	-22.0	
5.1150	-0.3	H	3.0	39.8	1.0	-39.1	-25.0	-14.1	
7.6725	1.6	H	3.0	39.3	1.0	-36.7	-25.0	-11.7	
10.2300	-9.1	H	3.0	38.6	1.0	-46.7	-25.0	-21.7	
Mid Ch, (2605 MHz)									
5.2100	-5.4	V	3.0	39.8	1.0	-44.2	-25.0	-19.2	
7.8150	-3.5	V	3.0	39.3	1.0	-41.8	-25.0	-16.8	
10.4200	-7.5	V	3.0	38.5	1.0	-45.0	-25.0	-20.0	
5.2100	1.1	H	3.0	39.8	1.0	-37.7	-25.0	-12.7	
7.8150	-1.3	H	3.0	39.3	1.0	-39.5	-25.0	-14.5	
10.4200	-8.7	H	3.0	38.5	1.0	-46.2	-25.0	-21.2	
High Ch, (2652.5 MHz)									
5.3050	-4.6	V	3.0	39.9	1.0	-43.5	-25.0	-18.5	
7.9575	-3.5	V	3.0	39.2	1.0	-41.7	-25.0	-16.7	
10.6100	-5.4	V	3.0	38.5	1.0	-42.9	-25.0	-17.9	
5.3050	1.1	H	3.0	39.9	1.0	-37.8	-25.0	-12.8	
7.9575	-0.9	H	3.0	39.2	1.0	-39.1	-25.0	-14.1	
10.6100	-8.0	H	3.0	38.5	1.0	-45.5	-25.0	-20.5	

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

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_22/24/27
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LTE Band 41 (with Protective cover)

LTE Band 41 20MHz QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.1	V	3.0	39.8	1.0	-41.9	-25.0	-16.9	
7.6950	1.2	V	3.0	39.3	1.0	-37.1	-25.0	-12.1	
10.2600	-3.3	V	3.0	38.6	1.0	-40.9	-25.0	-15.9	
5.1300	4.1	H	3.0	39.8	1.0	-34.7	-25.0	-9.7	
7.6950	-1.8	H	3.0	39.3	1.0	-40.1	-25.0	-15.1	
10.2600	-6.0	H	3.0	38.6	1.0	-43.6	-25.0	-18.6	
Mid Ch, (2605 MHz)									
5.2100	-4.3	V	3.0	39.8	1.0	-43.2	-25.0	-18.2	
7.8150	-3.4	V	3.0	39.3	1.0	-41.7	-25.0	-16.7	
10.4200	-6.4	V	3.0	38.5	1.0	-43.9	-25.0	-18.9	
5.2100	2.9	H	3.0	39.8	1.0	-35.9	-25.0	-10.9	
7.8150	-3.1	H	3.0	39.3	1.0	-41.4	-25.0	-16.4	
10.4200	-8.0	H	3.0	38.5	1.0	-45.5	-25.0	-20.5	
High Ch, (2645 MHz)									
5.2900	-5.9	V	3.0	39.9	1.0	-44.8	-25.0	-19.8	
7.9350	-0.8	V	3.0	39.2	1.0	-39.0	-25.0	-14.0	
10.5800	-3.9	V	3.0	38.5	1.0	-41.4	-25.0	-16.4	
5.2900	1.7	H	3.0	39.9	1.0	-37.2	-25.0	-12.2	
7.9350	-2.5	H	3.0	39.2	1.0	-40.7	-25.0	-15.7	
10.5800	-6.7	H	3.0	38.5	1.0	-44.2	-25.0	-19.2	

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 #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.0	V	3.0	39.8	1.0	-41.8	-25.0	-16.8	
7.6950	0.9	V	3.0	39.3	1.0	-37.4	-25.0	-12.4	
10.2600	-3.9	V	3.0	38.6	1.0	-41.4	-25.0	-16.4	
5.1300	4.0	H	3.0	39.8	1.0	-34.8	-25.0	-9.8	
7.6950	-2.3	H	3.0	39.3	1.0	-40.6	-25.0	-15.6	
10.2600	-6.6	H	3.0	38.6	1.0	-44.1	-25.0	-19.1	
Mid Ch, (2605 MHz)									
5.2100	-4.2	V	3.0	39.8	1.0	-43.0	-25.0	-18.0	
7.8150	-3.9	V	3.0	39.3	1.0	-42.1	-25.0	-17.1	
10.4200	-7.7	V	3.0	38.5	1.0	-45.2	-25.0	-20.2	
5.2100	3.0	H	3.0	39.8	1.0	-35.8	-25.0	-10.8	
7.8150	-3.7	H	3.0	39.3	1.0	-41.9	-25.0	-16.9	
10.4200	-7.8	H	3.0	38.5	1.0	-45.4	-25.0	-20.4	
High Ch, (2645 MHz)									
5.2900	-6.2	V	3.0	39.9	1.0	-45.0	-25.0	-20.0	
7.9350	-0.3	V	3.0	39.2	1.0	-38.5	-25.0	-13.5	
10.5800	-3.5	V	3.0	38.5	1.0	-41.0	-25.0	-16.0	
5.2900	1.9	H	3.0	39.9	1.0	-36.9	-25.0	-11.9	
7.9350	-2.9	H	3.0	39.2	1.0	-41.1	-25.0	-16.1	
10.5800	-7.4	H	3.0	38.5	1.0	-44.9	-25.0	-19.9	

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

LTE

Band 41

15MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-3.3	V	3.0	39.8	1.0	-42.1	-25.0	-17.1	
7.6875	3.1	V	3.0	39.3	1.0	-35.2	-25.0	-10.2	
10.2500	-4.4	V	3.0	38.6	1.0	-42.0	-25.0	-17.0	
5.1250	4.9	H	3.0	39.8	1.0	-33.9	-25.0	-8.9	
7.6875	-0.5	H	3.0	39.3	1.0	-38.9	-25.0	-13.9	
10.2500	-6.8	H	3.0	38.6	1.0	-44.3	-25.0	-19.3	
Mid Ch, (2605 MHz)									
5.2100	-3.4	V	3.0	39.8	1.0	-42.2	-25.0	-17.2	
7.8150	-4.5	V	3.0	39.3	1.0	-42.7	-25.0	-17.7	
10.4200	-5.5	V	3.0	38.5	1.0	-43.1	-25.0	-18.1	
5.2100	3.1	H	3.0	39.8	1.0	-35.7	-25.0	-10.7	
7.8150	-3.0	H	3.0	39.3	1.0	-41.3	-25.0	-16.3	
10.4200	-7.7	H	3.0	38.5	1.0	-45.3	-25.0	-20.3	
High Ch, (2647.5 MHz)									
5.2950	-5.4	V	3.0	39.9	1.0	-44.3	-25.0	-19.3	
7.9425	-0.1	V	3.0	39.2	1.0	-38.3	-25.0	-13.3	
10.5900	-4.6	V	3.0	38.5	1.0	-42.1	-25.0	-17.1	
5.2950	2.4	H	3.0	39.9	1.0	-36.5	-25.0	-11.5	
7.9425	-1.5	H	3.0	39.2	1.0	-39.7	-25.0	-14.7	
10.5900	-7.9	H	3.0	38.5	1.0	-45.4	-25.0	-20.4	

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 #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-2.5	V	3.0	39.8	1.0	-41.3	-25.0	-16.3	
7.6875	2.8	V	3.0	39.3	1.0	-35.5	-25.0	-10.5	
10.2500	-3.5	V	3.0	38.6	1.0	-41.1	-25.0	-16.1	
5.1250	4.3	H	3.0	39.8	1.0	-34.5	-25.0	-9.5	
7.6875	-0.5	H	3.0	39.3	1.0	-38.8	-25.0	-13.8	
10.2500	-6.4	H	3.0	38.6	1.0	-43.9	-25.0	-18.9	
Mid Ch, (2605 MHz)									
5.2100	-4.0	V	3.0	39.8	1.0	-42.9	-25.0	-17.9	
7.8150	-4.6	V	3.0	39.3	1.0	-42.8	-25.0	-17.8	
10.4200	-5.4	V	3.0	38.5	1.0	-43.0	-25.0	-18.0	
5.2100	3.6	H	3.0	39.8	1.0	-35.2	-25.0	-10.2	
7.8150	-3.2	H	3.0	39.3	1.0	-41.5	-25.0	-16.5	
10.4200	-8.4	H	3.0	38.5	1.0	-45.9	-25.0	-20.9	
High Ch, (2647.5 MHz)									
5.2950	-5.5	V	3.0	39.9	1.0	-44.4	-25.0	-19.4	
7.9425	-0.5	V	3.0	39.2	1.0	-38.7	-25.0	-13.7	
10.5900	-4.3	V	3.0	38.5	1.0	-41.9	-25.0	-16.9	
5.2950	2.5	H	3.0	39.9	1.0	-36.4	-25.0	-11.4	
7.9425	-1.4	H	3.0	39.2	1.0	-39.6	-25.0	-14.6	
10.5900	-8.1	H	3.0	38.5	1.0	-45.7	-25.0	-20.7	

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 #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-4.7	V	3.0	39.8	1.0	-43.5	-25.0	-18.5	
7.6800	3.8	V	3.0	39.3	1.0	-34.5	-25.0	-9.5	
10.2400	-3.7	V	3.0	38.6	1.0	-41.3	-25.0	-16.3	
5.1200	4.1	H	3.0	39.8	1.0	-34.7	-25.0	-9.7	
7.6800	1.9	H	3.0	39.3	1.0	-36.4	-25.0	-11.4	
10.2400	-7.0	H	3.0	38.6	1.0	-44.5	-25.0	-19.5	
Mid Ch, (2605 MHz)									
5.2100	-5.0	V	3.0	39.8	1.0	-43.8	-25.0	-18.8	
7.8150	-3.7	V	3.0	39.3	1.0	-42.0	-25.0	-17.0	
10.4200	-5.8	V	3.0	38.5	1.0	-43.4	-25.0	-18.4	
5.2100	3.7	H	3.0	39.8	1.0	-35.1	-25.0	-10.1	
7.8150	-2.4	H	3.0	39.3	1.0	-40.6	-25.0	-15.6	
10.4200	-7.9	H	3.0	38.5	1.0	-45.5	-25.0	-20.5	
High Ch, (2650 MHz)									
5.3000	-3.7	V	3.0	39.9	1.0	-42.5	-25.0	-17.5	
7.9500	-2.5	V	3.0	39.2	1.0	-40.7	-25.0	-15.7	
10.6000	-2.8	V	3.0	38.5	1.0	-40.3	-25.0	-15.3	
5.3000	5.6	H	3.0	39.9	1.0	-33.3	-25.0	-8.3	
7.9500	-3.8	H	3.0	39.2	1.0	-42.0	-25.0	-17.0	
10.6000	-7.6	H	3.0	38.5	1.0	-45.1	-25.0	-20.1	

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 #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-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	-5.2	V	3.0	39.8	1.0	-44.0	-25.0	-19.0	
7.6800	3.2	V	3.0	39.3	1.0	-35.1	-25.0	-10.1	
10.2400	-3.7	V	3.0	38.6	1.0	-41.3	-25.0	-16.3	
5.1200	3.9	H	3.0	39.8	1.0	-34.9	-25.0	-9.9	
7.6800	1.1	H	3.0	39.3	1.0	-37.2	-25.0	-12.2	
10.2400	-7.2	H	3.0	38.6	1.0	-44.8	-25.0	-19.8	
Mid Ch, (2605 MHz)									
5.2100	-4.9	V	3.0	39.8	1.0	-43.7	-25.0	-18.7	
7.8150	-3.9	V	3.0	39.3	1.0	-42.1	-25.0	-17.1	
10.4200	-5.2	V	3.0	38.5	1.0	-42.7	-25.0	-17.7	
5.2100	4.1	H	3.0	39.8	1.0	-34.7	-25.0	-9.7	
7.8150	-2.7	H	3.0	39.3	1.0	-40.9	-25.0	-15.9	
10.4200	-7.5	H	3.0	38.5	1.0	-45.1	-25.0	-20.1	
High Ch, (2650 MHz)									
5.3000	-4.2	V	3.0	39.9	1.0	-43.1	-25.0	-18.1	
7.9500	-2.9	V	3.0	39.2	1.0	-41.1	-25.0	-16.1	
10.6000	-3.3	V	3.0	38.5	1.0	-40.8	-25.0	-15.8	
5.3000	5.2	H	3.0	39.9	1.0	-33.6	-25.0	-8.6	
7.9500	-4.3	H	3.0	39.2	1.0	-42.5	-25.0	-17.5	
10.6000	-8.3	H	3.0	38.5	1.0	-45.8	-25.0	-20.8	

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

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LTE

Band 41

5MHz

QPSK

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

Company: Samsung
Project #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 41, 5MHz 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, (2557.5 MHz)									
5.1150	-3.1	V	3.0	39.8	1.0	-41.9	-25.0	-16.9	
7.6725	2.0	V	3.0	39.3	1.0	-36.3	-25.0	-11.3	
10.2300	-4.8	V	3.0	38.6	1.0	-42.4	-25.0	-17.4	
5.1150	4.6	H	3.0	39.8	1.0	-34.2	-25.0	-9.2	
7.6725	2.4	H	3.0	39.3	1.0	-35.9	-25.0	-10.9	
10.2300		H	3.0	38.6	1.0	-37.6	-25.0	-12.6	
Mid Ch, (2605 MHz)									
5.2100	-5.0	V	3.0	39.8	1.0	-43.9	-25.0	-18.9	
7.8150	-3.0	V	3.0	39.3	1.0	-41.3	-25.0	-16.3	
10.4200	-4.7	V	3.0	38.5	1.0	-42.2	-25.0	-17.2	
5.2100	4.6	H	3.0	39.8	1.0	-34.2	-25.0	-9.2	
7.8150	-2.8	H	3.0	39.3	1.0	-41.0	-25.0	-16.0	
10.4200	-7.9	H	3.0	38.5	1.0	-45.5	-25.0	-20.5	
High Ch, (2652.5 MHz)									
5.3050	-3.2	V	3.0	39.9	1.0	-42.0	-25.0	-17.0	
7.9575	-1.7	V	3.0	39.2	1.0	-39.9	-25.0	-14.9	
10.6100	-2.7	V	3.0	38.5	1.0	-40.2	-25.0	-15.2	
5.3050	6.0	H	3.0	39.9	1.0	-32.9	-25.0	-7.9	
7.9575	-1.9	H	3.0	39.2	1.0	-40.1	-25.0	-15.1	
10.6100	-7.5	H	3.0	38.5	1.0	-45.0	-25.0	-20.0	

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 #: 4788148881
Date: 10-11-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / Ear Phone / Z-Position
Mode: TX, LTE BAND 41, 5MHz 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, (2557.5 MHz)									
5.1150	-3.3	V	3.0	39.8	1.0	-42.1	-25.0	-17.1	
7.6725	1.8	V	3.0	39.3	1.0	-36.5	-25.0	-11.5	
10.2300	-5.9	V	3.0	38.6	1.0	-43.5	-25.0	-18.5	
5.1150	4.4	H	3.0	39.8	1.0	-34.4	-25.0	-9.4	
7.6725	2.6	H	3.0	39.3	1.0	-35.7	-25.0	-10.7	
10.2300	-7.6	H	3.0	38.6	1.0	-45.2	-25.0	-20.2	
Mid Ch, (2605 MHz)									
5.2100	-4.3	V	3.0	39.8	1.0	-43.1	-25.0	-18.1	
7.8150	-3.5	V	3.0	39.3	1.0	-41.8	-25.0	-16.8	
10.4200	-4.8	V	3.0	38.5	1.0	-42.3	-25.0	-17.3	
5.2100	4.2	H	3.0	39.8	1.0	-34.7	-25.0	-9.7	
7.8150	-3.0	H	3.0	39.3	1.0	-41.3	-25.0	-16.3	
10.4200	-8.3	H	3.0	38.5	1.0	-45.8	-25.0	-20.8	
High Ch, (2652.5 MHz)									
5.3050	-3.0	V	3.0	39.9	1.0	-41.9	-25.0	-16.9	
7.9575	-2.4	V	3.0	39.2	1.0	-40.6	-25.0	-15.6	
10.6100	-2.2	V	3.0	38.5	1.0	-39.8	-25.0	-14.8	
5.3050	6.0	H	3.0	39.9	1.0	-32.9	-25.0	-7.9	
7.9575	-1.6	H	3.0	39.2	1.0	-39.8	-25.0	-14.8	
10.6100	-8.2	H	3.0	38.5	1.0	-45.7	-25.0	-20.7	

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

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