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UL Korea, Ltd Suwon Laboratory Above 1GHz High Frequency Substitution Measurement																																																																																																																																																																																																																																						
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3.34608	-13.8	H	3.0	39.5	1.0	-52.3	-13.0	-39.3																																																																																																																																																																																																																														
High Ch, 848.31MHz																																																																																																																																																																																																																																						
1.69662	-11.1	V	3.0	38.2	1.0	-48.4	-13.0	-35.4																																																																																																																																																																																																																														
2.54493	-12.5	V	3.0	38.9	1.0	-50.4	-13.0	-37.4																																																																																																																																																																																																																														
3.39324	-13.7	V	3.0	39.5	1.0	-52.2	-13.0	-39.2																																																																																																																																																																																																																														
1.69662	-12.4	H	3.0	38.2	1.0	-49.6	-13.0	-36.6																																																																																																																																																																																																																														
2.54493	-15.8	H	3.0	38.9	1.0	-53.7	-13.0	-40.7																																																																																																																																																																																																																														
3.39324	-14.1	H	3.0	39.5	1.0	-52.6	-13.0	-39.6																																																																																																																																																																																																																														
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 #: 4788164548

Date: 09-27-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter / Y Position

Mode: Tx, REL99,850MHz

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.40MHz									
1.6520	-15.5	V	3.0	38.2	1.0	-52.7	-13.0	-39.7	
2.4790	-15.2	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.3056	-14.3	V	3.0	39.4	1.0	-52.7	-13.0	-39.7	
1.6520	-15.3	H	3.0	38.2	1.0	-52.5	-13.0	-39.5	
2.4790	-15.5	H	3.0	38.8	1.0	-53.3	-13.0	-40.3	
3.3056	-14.3	H	3.0	39.4	1.0	-52.8	-13.0	-39.8	
Mid Ch, 836.6MHz									
1.6732	-14.6	V	3.0	38.2	1.0	-51.8	-13.0	-38.8	
2.5098	-14.6	V	3.0	38.8	1.0	-52.5	-13.0	-39.5	
3.3464	-13.3	V	3.0	39.5	1.0	-51.7	-13.0	-38.7	
1.6732	-12.7	H	3.0	38.2	1.0	-49.9	-13.0	-36.9	
2.5098	-15.3	H	3.0	38.8	1.0	-53.2	-13.0	-40.2	
3.3464	-13.1	H	3.0	39.5	1.0	-51.6	-13.0	-38.6	
High Ch, 846.6MHz									
1.6932	-13.6	V	3.0	38.2	1.0	-50.8	-13.0	-37.8	
2.5390	-14.9	V	3.0	38.9	1.0	-52.8	-13.0	-39.8	
3.3860	-14.0	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6932	-14.8	H	3.0	38.2	1.0	-52.0	-13.0	-39.0	
2.5390	-15.3	H	3.0	38.9	1.0	-53.2	-13.0	-40.2	
3.3860	-14.0	H	3.0	39.5	1.0	-52.4	-13.0	-39.4	

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 #: 4788164548

Date: 09-27-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter / Y Position

Mode: Tx, HSDPA,850MHz

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.40MHz									
1.6520	-15.7	V	3.0	38.2	1.0	-53.0	-13.0	-40.0	
2.4790	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.3056	-14.4	V	3.0	39.4	1.0	-52.8	-13.0	-39.8	
1.6520	-15.6	H	3.0	38.2	1.0	-52.8	-13.0	-39.8	
2.4790	-15.9	H	3.0	38.8	1.0	-53.8	-13.0	-40.8	
3.3056	-14.2	H	3.0	39.4	1.0	-52.7	-13.0	-39.7	
Mid Ch, 836.6MHz									
1.6732	-15.9	V	3.0	38.2	1.0	-53.2	-13.0	-40.2	
2.5098	-14.5	V	3.0	38.8	1.0	-52.3	-13.0	-39.3	
3.3464	-14.2	V	3.0	39.5	1.0	-52.7	-13.0	-39.7	
1.6732	-13.7	H	3.0	38.2	1.0	-50.9	-13.0	-37.9	
2.5098	-16.3	H	3.0	38.8	1.0	-54.1	-13.0	-41.1	
3.3464	-13.7	H	3.0	39.5	1.0	-52.1	-13.0	-39.1	
High Ch, 846.6MHz									
1.6932	-13.8	V	3.0	38.2	1.0	-51.1	-13.0	-38.1	
2.5390	-15.2	V	3.0	38.9	1.0	-53.1	-13.0	-40.1	
3.3860	-14.3	V	3.0	39.5	1.0	-52.8	-13.0	-39.8	
1.6932	-15.0	H	3.0	38.2	1.0	-52.3	-13.0	-39.3	
2.5390	-15.6	H	3.0	38.9	1.0	-53.4	-13.0	-40.4	
3.3860	-13.6	H	3.0	39.5	1.0	-52.1	-13.0	-39.1	

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 #: 4788164548
Date: 10-13-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / X Position
Mode: Tx, REL99,1900MHz

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.7048	-13.8	V	3.0	39.7	1.0	-52.5	-13.0	-39.5	
5.5572	-11.0	V	3.0	39.9	1.0	-49.9	-13.0	-36.9	
7.4096	-10.6	V	3.0	39.4	1.0	-49.0	-13.0	-36.0	
3.7048	-12.6	H	3.0	39.7	1.0	-51.2	-13.0	-38.2	
5.5572	-11.3	H	3.0	39.9	1.0	-50.2	-13.0	-37.2	
7.4096	-11.2	H	3.0	39.4	1.0	-49.6	-13.0	-36.6	
Mid Ch, 1880MHz									
3.7600	-13.2	V	3.0	39.7	1.0	-51.9	-13.0	-38.9	
5.6400	-11.8	V	3.0	40.0	1.0	-50.8	-13.0	-37.8	
7.5200	-9.7	V	3.0	39.4	1.0	-48.0	-13.0	-35.0	
3.7600	-12.0	H	3.0	39.7	1.0	-50.7	-13.0	-37.7	
5.6400	-11.8	H	3.0	40.0	1.0	-50.7	-13.0	-37.7	
7.5200	-10.3	H	3.0	39.4	1.0	-48.6	-13.0	-35.6	
High Ch, 1907.6MHz									
3.8152	-12.5	V	3.0	39.7	1.0	-51.2	-13.0	-38.2	
5.7228	-11.3	V	3.0	40.0	1.0	-50.3	-13.0	-37.3	
7.6304	-10.4	V	3.0	39.3	1.0	-48.7	-13.0	-35.7	
3.8152	-11.8	H	3.0	39.7	1.0	-50.5	-13.0	-37.5	
5.7228	-11.6	H	3.0	40.0	1.0	-50.6	-13.0	-37.6	
7.6304	-10.2	H	3.0	39.3	1.0	-48.6	-13.0	-35.6	

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 #: 4788164548
Date: 10-13-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter / X Position
Mode: Tx, HSDPA,1900MHz

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 24

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3.7048	-14.8	V	3.0	39.7	1.0	-53.4	-13.0	-40.4	
5.5572	-11.6	V	3.0	39.9	1.0	-50.5	-13.0	-37.5	
7.4096	-11.3	V	3.0	39.4	1.0	-49.7	-13.0	-36.7	
3.7048	-13.6	H	3.0	39.7	1.0	-52.2	-13.0	-39.2	
5.5572	-11.5	H	3.0	39.9	1.0	-50.4	-13.0	-37.4	
7.4096	-11.0	H	3.0	39.4	1.0	-49.4	-13.0	-36.4	
Mid Ch, 1880MHz									
3.7600	-13.3	V	3.0	39.7	1.0	-52.0	-13.0	-39.0	
5.6400	-11.6	V	3.0	40.0	1.0	-50.6	-13.0	-37.6	
7.5200	-10.3	V	3.0	39.4	1.0	-48.7	-13.0	-35.7	
3.7600	-12.1	H	3.0	39.7	1.0	-50.8	-13.0	-37.8	
5.6400	-12.3	H	3.0	40.0	1.0	-51.2	-13.0	-38.2	
7.5200	-9.8	H	3.0	39.4	1.0	-48.2	-13.0	-35.2	
High Ch, 1907.6MHz									
3.8152	-13.1	V	3.0	39.7	1.0	-51.8	-13.0	-38.8	
5.7228	-11.6	V	3.0	40.0	1.0	-50.6	-13.0	-37.6	
7.6304	-10.6	V	3.0	39.3	1.0	-48.9	-13.0	-35.9	
3.8152	-12.0	H	3.0	39.7	1.0	-50.7	-13.0	-37.7	
5.7228	-11.3	H	3.0	40.0	1.0	-50.3	-13.0	-37.3	
7.6304	-9.9	H	3.0	39.3	1.0	-48.3	-13.0	-35.3	

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 #: 4788164548
Date: 10-13-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter, Y Position
Mode: TX, LTE BAND 5, 10MHz BW,QPSK

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (829MHz)									
1.6580	-6.5	V	3.0	38.2	1.0	-43.7	-13.0	-30.7	
2.4870	-13.1	V	3.0	38.8	1.0	-50.9	-13.0	-37.9	
3.3160	-13.3	V	3.0	39.4	1.0	-51.7	-13.0	-38.7	
1.6580	-10.8	H	3.0	38.2	1.0	-48.1	-13.0	-35.1	
2.4870	-15.8	H	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3160	-14.3	H	3.0	39.4	1.0	-52.7	-13.0	-39.7	
Mid Channel (836.5MHz)									
1.6730	-8.7	V	3.0	38.2	1.0	-45.9	-13.0	-32.9	
2.5090	-15.5	V	3.0	38.8	1.0	-53.3	-13.0	-40.3	
3.3460	-14.6	V	3.0	39.5	1.0	-53.0	-13.0	-40.0	
1.6730	-11.1	H	3.0	38.2	1.0	-48.3	-13.0	-35.3	
2.5090	-16.2	H	3.0	38.8	1.0	-54.0	-13.0	-41.0	
3.3460	-14.9	H	3.0	39.5	1.0	-53.4	-13.0	-40.4	
High Channel (844MHz)									
1.6880	-9.7	V	3.0	38.2	1.0	-47.0	-13.0	-34.0	
2.5320	-14.1	V	3.0	38.9	1.0	-52.0	-13.0	-39.0	
3.3760	-14.7	V	3.0	39.5	1.0	-53.2	-13.0	-40.2	
1.6880	-13.0	H	3.0	38.2	1.0	-50.2	-13.0	-37.2	
2.5320	-15.8	H	3.0	38.9	1.0	-53.7	-13.0	-40.7	
3.3760	-14.1	H	3.0	39.5	1.0	-52.6	-13.0	-39.6	

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

LTE
Band 5
10MHz
16QAM

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

Company: Samsung
Project #: 4788164548
Date: 10-13-17
Test Engineer: YH Lim
Configuration: EUT / AC Adapter, Y Position
Mode: TX, LTE BAND 5, 10MHz BW,16QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (829MHz)									
1.6580	-6.6	V	3.0	38.2	1.0	-43.8	-13.0	-30.8	
2.4870	-13.6	V	3.0	38.8	1.0	-51.5	-13.0	-38.5	
3.3160	-13.4	V	3.0	39.4	1.0	-51.9	-13.0	-38.9	
1.6580	-12.0	H	3.0	38.2	1.0	-49.2	-13.0	-36.2	
2.4870	-16.3	H	3.0	38.8	1.0	-54.1	-13.0	-41.1	
3.3160	-14.4	H	3.0	39.4	1.0	-52.8	-13.0	-39.8	
Mid Channel (836.5MHz)									
1.6730	-9.1	V	3.0	38.2	1.0	-46.4	-13.0	-33.4	
2.5090	-16.1	V	3.0	38.8	1.0	-53.9	-13.0	-40.9	
3.3460	-14.6	V	3.0	39.5	1.0	-53.0	-13.0	-40.0	
1.6730	-11.0	H	3.0	38.2	1.0	-48.3	-13.0	-35.3	
2.5090	-16.5	H	3.0	38.8	1.0	-54.3	-13.0	-41.3	
3.3460	-14.6	H	3.0	39.5	1.0	-53.0	-13.0	-40.0	
High Channel (844MHz)									
1.6880	-9.6	V	3.0	38.2	1.0	-46.9	-13.0	-33.9	
2.5320	-14.4	V	3.0	38.9	1.0	-52.3	-13.0	-39.3	
3.3760	-14.1	V	3.0	39.5	1.0	-52.6	-13.0	-39.6	
1.6880	-12.9	H	3.0	38.2	1.0	-50.1	-13.0	-37.1	
2.5320	-16.6	H	3.0	38.9	1.0	-54.5	-13.0	-41.5	
3.3760	-14.3	H	3.0	39.5	1.0	-52.8	-13.0	-39.8	

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

LTE
Band 5
5MHz
QPSK

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-13-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

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

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.5MHz)									
1.6530	-11.7	V	3.0	38.2	1.0	-48.9	-13.0	-35.9	
2.4790	-13.9	V	3.0	38.8	1.0	-51.7	-13.0	-38.7	
3.3060	-14.1	V	3.0	39.4	1.0	-52.6	-13.0	-39.6	
1.6530	-9.6	H	3.0	38.2	1.0	-46.8	-13.0	-33.8	
2.4790	-15.6	H	3.0	38.8	1.0	-53.4	-13.0	-40.4	
3.3060	-14.8	H	3.0	39.4	1.0	-53.2	-13.0	-40.2	
Mid Channel (836.5MHz)									
1.6730	-8.4	V	3.0	38.2	1.0	-45.6	-13.0	-32.6	
2.5090	-15.2	V	3.0	38.8	1.0	-53.0	-13.0	-40.0	
3.3460	-13.4	V	3.0	39.5	1.0	-51.8	-13.0	-38.8	
1.6730	-9.9	H	3.0	38.2	1.0	-47.2	-13.0	-34.2	
2.5090	-16.2	H	3.0	38.8	1.0	-54.0	-13.0	-41.0	
3.3460	-14.0	H	3.0	39.5	1.0	-52.5	-13.0	-39.5	
High Channel (846.5MHz)									
1.6930	-7.8	V	3.0	38.2	1.0	-45.1	-13.0	-32.1	
2.5390	-15.0	V	3.0	38.9	1.0	-52.8	-13.0	-39.8	
3.3860	-14.3	V	3.0	39.5	1.0	-52.8	-13.0	-39.8	
1.6930	-13.1	H	3.0	38.2	1.0	-50.3	-13.0	-37.3	
2.5390	-16.3	H	3.0	38.9	1.0	-54.2	-13.0	-41.2	
3.3860	-13.8	H	3.0	39.5	1.0	-52.3	-13.0	-39.3	

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 #: 4788164548

Date: 10-13-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

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

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.5MHz)									
1.6530	-11.7	V	3.0	38.2	1.0	-49.0	-13.0	-36.0	
2.4790	-13.9	V	3.0	38.8	1.0	-51.7	-13.0	-38.7	
3.3060	-13.4	V	3.0	39.4	1.0	-51.8	-13.0	-38.8	
1.6530	-9.6	H	3.0	38.2	1.0	-46.8	-13.0	-33.8	
2.4790	-16.1	H	3.0	38.8	1.0	-53.9	-13.0	-40.9	
3.3060	-14.8	H	3.0	39.4	1.0	-53.2	-13.0	-40.2	
Mid Channel (836.5MHz)									
1.6730	-8.9	V	3.0	38.2	1.0	-46.1	-13.0	-33.1	
2.5090	-15.5	V	3.0	38.8	1.0	-53.3	-13.0	-40.3	
3.3460	-13.9	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6730	-9.6	H	3.0	38.2	1.0	-46.8	-13.0	-33.8	
2.5090	-15.9	H	3.0	38.8	1.0	-53.7	-13.0	-40.7	
3.3460	-14.6	H	3.0	39.5	1.0	-53.0	-13.0	-40.0	
High Channel (846.5MHz)									
1.6930	-7.9	V	3.0	38.2	1.0	-45.1	-13.0	-32.1	
2.5390	-15.4	V	3.0	38.9	1.0	-53.3	-13.0	-40.3	
3.3860	-14.3	V	3.0	39.5	1.0	-52.8	-13.0	-39.8	
1.6930	-13.2	H	3.0	38.2	1.0	-50.5	-13.0	-37.5	
2.5390	-16.4	H	3.0	38.9	1.0	-54.3	-13.0	-41.3	
3.3860	-14.5	H	3.0	39.5	1.0	-52.9	-13.0	-39.9	

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 #: 4788164548

Date: 10-12-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

Mode: TX LTE BAND 5, 3MHz BW,QPSK

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (825.5MHz)									
1.6510	-11.3	V	3.0	38.2	1.0	-48.5	-13.0	-35.5	
2.4765	-13.9	V	3.0	38.8	1.0	-51.7	-13.0	-38.7	
3.3020	-14.1	V	3.0	39.4	1.0	-52.5	-13.0	-39.5	
1.6510	-9.0	H	3.0	38.2	1.0	-46.2	-13.0	-33.2	
2.4765	-16.4	H	3.0	38.8	1.0	-54.2	-13.0	-41.2	
3.3020	-14.9	H	3.0	39.4	1.0	-53.4	-13.0	-40.4	
Mid Channel (836.5MHz)									
1.6730	-11.0	V	3.0	38.2	1.0	-48.2	-13.0	-35.2	
2.5090	-15.7	V	3.0	38.8	1.0	-53.5	-13.0	-40.5	
3.3460	-14.9	V	3.0	39.5	1.0	-53.4	-13.0	-40.4	
1.6730	-8.8	H	3.0	38.2	1.0	-46.1	-13.0	-33.1	
2.5090	-15.6	H	3.0	38.8	1.0	-53.5	-13.0	-40.5	
3.3460	-14.1	H	3.0	39.5	1.0	-52.5	-13.0	-39.5	
High Channel (847.5MHz)									
1.6950	-12.6	V	3.0	38.2	1.0	-49.9	-13.0	-36.9	
2.5425	-15.4	V	3.0	38.9	1.0	-53.3	-13.0	-40.3	
3.3900	-14.4	V	3.0	39.5	1.0	-52.9	-13.0	-39.9	
1.6950	-9.3	H	3.0	38.2	1.0	-46.6	-13.0	-33.6	
2.5425	-16.3	H	3.0	38.9	1.0	-54.2	-13.0	-41.2	
3.3900	-14.7	H	3.0	39.5	1.0	-53.2	-13.0	-40.2	

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 #: 4788164548

Date: 10-12-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

Mode: TX LTE BAND 5, 3MHz BW,16QAM

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (825.5MHz)									
1.6510	-10.8	V	3.0	38.2	1.0	-48.1	-13.0	-35.1	
2.4765	-13.9	V	3.0	38.8	1.0	-51.7	-13.0	-38.7	
3.3020	-15.0	V	3.0	39.4	1.0	-53.5	-13.0	-40.5	
1.6510	-8.8	H	3.0	38.2	1.0	-46.1	-13.0	-33.1	
2.4765	-16.8	H	3.0	38.8	1.0	-54.6	-13.0	-41.6	
3.3020	-14.3	H	3.0	39.4	1.0	-52.8	-13.0	-39.8	
Mid Channel (836.5MHz)									
1.6730	-11.0	V	3.0	38.2	1.0	-48.3	-13.0	-35.3	
2.5090	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.3460	-14.8	V	3.0	39.5	1.0	-53.2	-13.0	-40.2	
1.6730	-8.6	H	3.0	38.2	1.0	-45.8	-13.0	-32.8	
2.5090	-16.5	H	3.0	38.8	1.0	-54.3	-13.0	-41.3	
3.3460	-13.8	H	3.0	39.5	1.0	-52.2	-13.0	-39.2	
High Channel (847.5MHz)									
1.6950	-12.7	V	3.0	38.2	1.0	-50.0	-13.0	-37.0	
2.5425	-14.8	V	3.0	38.9	1.0	-52.6	-13.0	-39.6	
3.3900	-14.4	V	3.0	39.5	1.0	-52.8	-13.0	-39.8	
1.6950	-9.3	H	3.0	38.2	1.0	-46.5	-13.0	-33.5	
2.5425	-15.6	H	3.0	38.9	1.0	-53.5	-13.0	-40.5	
3.3900	-14.3	H	3.0	39.5	1.0	-52.8	-13.0	-39.8	

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 #: 4788164548

Date: 10-12-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

Mode: TX, LTE BAND 5, 1.4MHz BW,QPSK

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.7MHz)									
1.6494	-10.4	V	3.0	38.2	1.0	-47.7	-13.0	-34.7	
2.4741	-13.7	V	3.0	38.8	1.0	-51.5	-13.0	-38.5	
3.2988	-14.1	V	3.0	39.4	1.0	-52.5	-13.0	-39.5	
1.6494	-9.0	H	3.0	38.2	1.0	-46.2	-13.0	-33.2	
2.4741	-15.4	H	3.0	38.8	1.0	-53.2	-13.0	-40.2	
3.2988	-14.4	H	3.0	39.4	1.0	-52.8	-13.0	-39.8	
Mid Channel (836.5MHz)									
1.6730	-9.2	V	3.0	38.2	1.0	-46.4	-13.0	-33.4	
2.5090	-15.3	V	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.3460	-13.9	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6730	-7.9	H	3.0	38.2	1.0	-45.2	-13.0	-32.2	
2.5090	-15.6	H	3.0	38.8	1.0	-53.4	-13.0	-40.4	
3.3460	-13.7	H	3.0	39.5	1.0	-52.2	-13.0	-39.2	
High Channel (848.3MHz)									
1.6966	-11.9	V	3.0	38.2	1.0	-49.2	-13.0	-36.2	
2.5449	-14.2	V	3.0	38.9	1.0	-52.1	-13.0	-39.1	
3.3932	-14.1	V	3.0	39.5	1.0	-52.6	-13.0	-39.6	
1.6966	-10.3	H	3.0	38.2	1.0	-47.5	-13.0	-34.5	
2.5449	-16.2	H	3.0	38.9	1.0	-54.1	-13.0	-41.1	
3.3932	-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.

LTE
Band 5
1.4MHz
16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-12-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter, Y Position

Mode: TX, LTE BAND 5, 1.4MHz BW,16QAM

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.7MHz)									
1.6494	-10.7	V	3.0	38.2	1.0	-48.0	-13.0	-35.0	
2.4741	-15.0	V	3.0	38.8	1.0	-52.8	-13.0	-39.8	
3.2988	-14.3	V	3.0	39.4	1.0	-52.7	-13.0	-39.7	
1.6494	-8.7	H	3.0	38.2	1.0	-45.9	-13.0	-32.9	
2.4741	-15.3	H	3.0	38.8	1.0	-53.1	-13.0	-40.1	
3.2988	-14.8	H	3.0	39.4	1.0	-53.2	-13.0	-40.2	
Mid Channel (836.5MHz)									
1.6730	-10.1	V	3.0	38.2	1.0	-47.3	-13.0	-34.3	
2.5090	-15.8	V	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3460	-14.0	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6730	-8.8	H	3.0	38.2	1.0	-46.0	-13.0	-33.0	
2.5090	-15.4	H	3.0	38.8	1.0	-53.2	-13.0	-40.2	
3.3460	-14.0	H	3.0	39.5	1.0	-52.4	-13.0	-39.4	
High Channel (848.3MHz)									
1.6966	-12.1	V	3.0	38.2	1.0	-49.3	-13.0	-36.3	
2.5449	-14.9	V	3.0	38.9	1.0	-52.8	-13.0	-39.8	
3.3932	-14.5	V	3.0	39.5	1.0	-52.9	-13.0	-39.9	
1.6966	-10.4	H	3.0	38.2	1.0	-47.6	-13.0	-34.6	
2.5449	-16.2	H	3.0	38.9	1.0	-54.1	-13.0	-41.1	
3.3932	-14.1	H	3.0	39.5	1.0	-52.6	-13.0	-39.6	

Rev. 03.03.09

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

LTE
Band 5
10MHz
64QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-19-17

Test Engineer: JH Park

Configuration: EUT / AC Adapter, Y Position

Mode: TX LTE BAND 5, 10MHz BW,64QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (829MHz)									
1.6580	-2.4	V	3.0	38.2	1.0	-39.6	-13.0	-26.6	
2.4870	-14.0	V	3.0	38.8	1.0	-51.8	-13.0	-38.8	
3.3160	-13.3	V	3.0	39.4	1.0	-51.7	-13.0	-38.7	
1.6580	-11.0	H	3.0	38.2	1.0	-48.2	-13.0	-35.2	
2.4870	-16.0	H	3.0	38.8	1.0	-53.8	-13.0	-40.8	
3.3160	-14.1	H	3.0	39.4	1.0	-52.6	-13.0	-39.6	
Mid Channel (836.5MHz)									
1.6730	-3.0	V	3.0	38.2	1.0	-40.3	-13.0	-27.3	
2.5090	-15.8	V	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3460	-14.1	V	3.0	39.5	1.0	-52.6	-13.0	-39.6	
1.6730	-11.8	H	3.0	38.2	1.0	-49.0	-13.0	-36.0	
2.5090	-16.0	H	3.0	38.8	1.0	-53.9	-13.0	-40.9	
3.3460	-14.5	H	3.0	39.5	1.0	-52.9	-13.0	-39.9	
High Channel (844MHz)									
1.6880	-7.8	V	3.0	38.2	1.0	-45.0	-13.0	-32.0	
2.5320	-15.5	V	3.0	38.9	1.0	-53.3	-13.0	-40.3	
3.3760	-13.9	V	3.0	39.5	1.0	-52.4	-13.0	-39.4	
1.6880	-13.5	H	3.0	38.2	1.0	-50.7	-13.0	-37.7	
2.5320	-16.2	H	3.0	38.9	1.0	-54.0	-13.0	-41.0	
3.3760	-14.0	H	3.0	39.5	1.0	-52.5	-13.0	-39.5	

Rev. 03.03.09

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

LTE
Band 5
5MHz
64QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-19-17

Test Engineer: JH Park

Configuration: EUT / AC Adapter, Y Position

Mode: TX LTE BAND 5, 5MHz BW,64QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (826.5MHz)									
1.6530	-3.2	V	3.0	38.2	1.0	-40.5	-13.0	-27.5	
2.4790	-15.8	V	3.0	38.8	1.0	-53.6	-13.0	-40.6	
3.3060	-14.3	V	3.0	39.4	1.0	-52.8	-13.0	-39.8	
1.6530	-11.1	H	3.0	38.2	1.0	-48.3	-13.0	-35.3	
2.4790	-16.4	H	3.0	38.8	1.0	-54.2	-13.0	-41.2	
3.3060	-15.1	H	3.0	39.4	1.0	-53.6	-13.0	-40.6	
Mid Channel (836.5MHz)									
1.6730	-3.2	V	3.0	38.2	1.0	-40.5	-13.0	-27.5	
2.5090	-15.6	V	3.0	38.8	1.0	-53.4	-13.0	-40.4	
3.3460	-14.5	V	3.0	39.5	1.0	-52.9	-13.0	-39.9	
1.6730	-11.4	H	3.0	38.2	1.0	-48.7	-13.0	-35.7	
2.5090	-16.3	H	3.0	38.8	1.0	-54.1	-13.0	-41.1	
3.3460	-15.0	H	3.0	39.5	1.0	-53.4	-13.0	-40.4	
High Channel (846.5MHz)									
1.6930	-4.5	V	3.0	38.2	1.0	-41.7	-13.0	-28.7	
2.5390	-15.8	V	3.0	38.9	1.0	-53.6	-13.0	-40.6	
3.3860	-14.5	V	3.0	39.5	1.0	-53.0	-13.0	-40.0	
1.6930	-13.3	H	3.0	38.2	1.0	-50.5	-13.0	-37.5	
2.5390	-16.3	H	3.0	38.9	1.0	-54.2	-13.0	-41.2	
3.3860	-14.5	H	3.0	39.5	1.0	-53.0	-13.0	-40.0	

Rev. 03.03.09

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

LTE

Band 5

3 MHz

64QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-19-17

Test Engineer: JH Park

Configuration: EUT / AC Adapter, Y Position

Mode: TX, LTE BAND 5, 3MHz BW, 64QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (825.5MHz)									
1.6510	-2.9	V	3.0	38.2	1.0	-40.1	-13.0	-27.1	
2.4765	-15.9	V	3.0	38.8	1.0	-53.7	-13.0	-40.7	
3.3020	-13.9	V	3.0	39.4	1.0	-52.3	-13.0	-39.3	
1.6510	-11.0	H	3.0	38.2	1.0	-48.2	-13.0	-35.2	
2.4765	-16.0	H	3.0	38.8	1.0	-53.8	-13.0	-40.8	
3.3020	-15.4	H	3.0	39.4	1.0	-53.8	-13.0	-40.8	
Mid Channel (836.5MHz)									
1.6730	-3.9	V	3.0	38.2	1.0	-41.1	-13.0	-28.1	
2.5090	-15.9	V	3.0	38.8	1.0	-53.8	-13.0	-40.8	
3.3460	-15.1	V	3.0	39.5	1.0	-53.6	-13.0	-40.6	
1.6730	-13.6	H	3.0	38.2	1.0	-50.8	-13.0	-37.8	
2.5090	-16.3	H	3.0	38.8	1.0	-54.1	-13.0	-41.1	
3.3460	-14.5	H	3.0	39.5	1.0	-52.9	-13.0	-39.9	
High Channel (847.5MHz)									
1.6950	-5.2	V	3.0	38.2	1.0	-42.5	-13.0	-29.5	
2.5425	-15.4	V	3.0	38.9	1.0	-53.2	-13.0	-40.2	
3.3900	-14.5	V	3.0	39.5	1.0	-53.0	-13.0	-40.0	
1.6950	-14.2	H	3.0	38.2	1.0	-51.4	-13.0	-38.4	
2.5425	-15.9	H	3.0	38.9	1.0	-53.8	-13.0	-40.8	
3.3900	-14.2	H	3.0	39.5	1.0	-52.7	-13.0	-39.7	

Rev. 03.03.09

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

LTE

Band 5

1.4MHz

64QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-19-17

Test Engineer: JH Park

Configuration: EUT / AC Adapter, Y Position

Mode: TX, LTE BAND 5, 1.4MHz BW, 64QAM

Chamber

Chamber 2

Pre-amplifier

AFS42

Filter

Filter 1

Limit

Part 22

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.7MHz)									
1.6494	-5.5	V	3.0	38.2	1.0	-42.8	-13.0	-29.8	
2.4741	-15.7	V	3.0	38.8	1.0	-53.5	-13.0	-40.5	
3.2988	-15.1	V	3.0	39.4	1.0	-53.6	-13.0	-40.6	
1.6494	-13.4	H	3.0	38.2	1.0	-50.6	-13.0	-37.6	
2.4741	-15.7	H	3.0	38.8	1.0	-53.5	-13.0	-40.5	
3.2988	-14.1	H	3.0	39.4	1.0	-52.6	-13.0	-39.6	
Mid Channel (836.5MHz)									
1.6730	-3.7	V	3.0	38.2	1.0	-41.0	-13.0	-28.0	
2.5090	-16.1	V	3.0	38.8	1.0	-53.9	-13.0	-40.9	
3.3460	-15.0	V	3.0	39.5	1.0	-53.4	-13.0	-40.4	
1.6730	-12.8	H	3.0	38.2	1.0	-50.0	-13.0	-37.0	
2.5090	-16.6	H	3.0	38.8	1.0	-54.5	-13.0	-41.5	
3.3460	-15.0	H	3.0	39.5	1.0	-53.4	-13.0	-40.4	
High Channel (848.3MHz)									
1.6966	-5.8	V	3.0	38.2	1.0	-43.1	-13.0	-30.1	
2.5449	-15.6	V	3.0	38.9	1.0	-53.5	-13.0	-40.5	
3.3932	-14.3	V	3.0	39.5	1.0	-52.7	-13.0	-39.7	
1.6966	-14.7	H	3.0	38.2	1.0	-52.0	-13.0	-39.0	
2.5449	-15.7	H	3.0	38.9	1.0	-53.6	-13.0	-40.6	
3.3932	-14.0	H	3.0	39.5	1.0	-52.5	-13.0	-39.5	

Rev. 03.03.09

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

LTE Band 4

LTE
Band 4
20MHz
QPSK

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

Company: Samsung
Project #: 4788164548
Date: 10-11-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 4, 20MHz BW, QPSK

ChamberPre-amplifierFilterLimit

Chamber 2AFS42Filter 1FCC Part 27

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1720MHz)									
3.4400	-9.4	V	3.0	39.5	1.0	-47.9	-13.0	-34.9	
5.1600	-12.1	V	3.0	39.8	1.0	-51.0	-13.0	-38.0	
6.8800	-10.9	V	3.0	39.7	1.0	-49.6	-13.0	-36.6	
3.4400	-7.6	H	3.0	39.5	1.0	-46.1	-13.0	-33.1	
5.1600	-12.5	H	3.0	39.8	1.0	-51.3	-13.0	-38.3	
6.8800	-11.3	H	3.0	39.7	1.0	-49.9	-13.0	-36.9	
Mid Channel (1732.5MHz)									
3.4650	-10.7	V	3.0	39.5	1.0	-49.3	-13.0	-36.3	
5.1975	-12.2	V	3.0	39.8	1.0	-51.0	-13.0	-38.0	
6.9300	-11.4	V	3.0	39.7	1.0	-50.0	-13.0	-37.0	
3.4650	-9.2	H	3.0	39.5	1.0	-47.7	-13.0	-34.7	
5.1975	-12.2	H	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.9300	-11.1	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
High Channel (1745MHz)									
3.4900	-8.8	V	3.0	39.5	1.0	-47.4	-13.0	-34.4	
5.2350	-12.3	V	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.9800	-11.3	V	3.0	39.6	1.0	-49.9	-13.0	-36.9	
3.4900	-11.0	H	3.0	39.5	1.0	-49.6	-13.0	-36.6	
5.2350	-12.2	H	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.9800	-11.0	H	3.0	39.6	1.0	-49.7	-13.0	-36.7	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 4
20MHz
16QAM

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

Company: Samsung
Project #: 4788164548
Date: 10-11-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX, LTE BAND 4, 20MHz BW, 16QAM

ChamberPre-amplifierFilterLimit

Chamber 2AFS42Filter 1FCC Part 27

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1720MHz)									
3.4400	-9.6	V	3.0	39.5	1.0	-48.1	-13.0	-35.1	
5.1600	-12.4	V	3.0	39.8	1.0	-51.2	-13.0	-38.2	
6.8800	-10.9	V	3.0	39.7	1.0	-49.5	-13.0	-36.5	
3.4400	-7.1	H	3.0	39.5	1.0	-45.6	-13.0	-32.6	
5.1600	-12.2	H	3.0	39.8	1.0	-51.0	-13.0	-38.0	
6.8800	-10.6	H	3.0	39.7	1.0	-49.3	-13.0	-36.3	
Mid Channel (1732.5MHz)									
3.4650	-11.0	V	3.0	39.5	1.0	-49.5	-13.0	-36.5	
5.1975	-12.5	V	3.0	39.8	1.0	-51.3	-13.0	-38.3	
6.9300	-10.8	V	3.0	39.7	1.0	-49.5	-13.0	-36.5	
3.4650	-9.3	H	3.0	39.5	1.0	-47.9	-13.0	-34.9	
5.1975	-13.2	H	3.0	39.8	1.0	-52.0	-13.0	-39.0	
6.9300	-11.1	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
High Channel (1745MHz)									
3.4900	-9.3	V	3.0	39.5	1.0	-47.9	-13.0	-34.9	
5.2350	-12.5	V	3.0	39.8	1.0	-51.3	-13.0	-38.3	
6.9800	-11.3	V	3.0	39.6	1.0	-49.9	-13.0	-36.9	
3.4900	-10.1	H	3.0	39.5	1.0	-48.7	-13.0	-35.7	
5.2350	-12.8	H	3.0	39.8	1.0	-51.6	-13.0	-38.6	
6.9800	-10.5	H	3.0	39.6	1.0	-49.2	-13.0	-36.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 4
15MHz
QPSK

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

Company: Samsung
Project #: 4788164548
Date: 10-11-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX LTE BAND 4, 15MHz BW,QPSK

ChamberPre-amplifierFilterLimit

Chamber 2AFS42Filter 1FCC Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1717.5MHz)									
3.4350	-5.8	V	3.0	39.5	1.0	-44.3	-13.0	-31.3	
5.1525	-12.6	V	3.0	39.8	1.0	-51.5	-13.0	-38.5	
6.8700	-10.7	V	3.0	39.7	1.0	-49.4	-13.0	-36.4	
3.4350	-4.0	H	3.0	39.5	1.0	-42.5	-13.0	-29.5	
5.1525	-12.1	H	3.0	39.8	1.0	-50.9	-13.0	-37.9	
6.8700	-10.8	H	3.0	39.7	1.0	-49.5	-13.0	-36.5	
Mid Channel (1732.5MHz)									
3.4650	-6.9	V	3.0	39.5	1.0	-45.4	-13.0	-32.4	
5.1975	-12.4	V	3.0	39.8	1.0	-51.2	-13.0	-38.2	
6.9300	-10.9	V	3.0	39.7	1.0	-49.6	-13.0	-36.6	
3.4650	-5.5	H	3.0	39.5	1.0	-44.1	-13.0	-31.1	
5.1975	-12.0	H	3.0	39.8	1.0	-50.8	-13.0	-37.8	
6.9300	-10.4	H	3.0	39.7	1.0	-49.1	-13.0	-36.1	
High Channel (1747.5MHz)									
3.4950	-6.0	V	3.0	39.5	1.0	-44.5	-13.0	-31.5	
5.2425	-13.3	V	3.0	39.8	1.0	-52.1	-13.0	-39.1	
6.9900	-11.4	V	3.0	39.6	1.0	-50.1	-13.0	-37.1	
3.4950	-5.8	H	3.0	39.5	1.0	-44.3	-13.0	-31.3	
5.2425	-12.8	H	3.0	39.8	1.0	-51.7	-13.0	-38.7	
6.9900	-11.8	H	3.0	39.6	1.0	-50.4	-13.0	-37.4	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 4
15MHz
16QAM

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

Company: Samsung
Project #: 4788164548
Date: 10-11-17
Test Engineer: JH Park
Configuration: EUT / AC Adapter / Ear Phone / X-Position
Mode: TX LTE BAND 4, 15MHz BW,16QAM

ChamberPre-amplifierFilterLimit

Chamber 2AFS42Filter 1FCC Part 27

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1717.5MHz)									
3.4350	-5.9	V	3.0	39.5	1.0	-44.4	-13.0	-31.4	
5.1525	-12.4	V	3.0	39.8	1.0	-51.2	-13.0	-38.2	
6.8700	-9.8	V	3.0	39.7	1.0	-48.5	-13.0	-35.5	
3.4350	-3.7	H	3.0	39.5	1.0	-42.2	-13.0	-29.2	
5.1525	-11.8	H	3.0	39.8	1.0	-50.7	-13.0	-37.7	
6.8700	-11.0	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
Mid Channel (1732.5MHz)									
3.4650	-6.6	V	3.0	39.5	1.0	-45.1	-13.0	-32.1	
5.1975	-12.0	V	3.0	39.8	1.0	-50.9	-13.0	-37.9	
6.9300	-10.9	V	3.0	39.7	1.0	-49.5	-13.0	-36.5	
3.4650	-6.0	H	3.0	39.5	1.0	-44.5	-13.0	-31.5	
5.1975	-11.8	H	3.0	39.8	1.0	-50.7	-13.0	-37.7	
6.9300	-11.3	H	3.0	39.7	1.0	-50.0	-13.0	-37.0	
High Channel (1747.5MHz)									
3.4950	-6.9	V	3.0	39.5	1.0	-45.5	-13.0	-32.5	
5.2425	-12.7	V	3.0	39.8	1.0	-51.5	-13.0	-38.5	
6.9900	-11.4	V	3.0	39.6	1.0	-50.0	-13.0	-37.0	
3.4950	-6.0	H	3.0	39.5	1.0	-44.5	-13.0	-31.5	
5.2425	-13.4	H	3.0	39.8	1.0	-52.2	-13.0	-39.2	
6.9900	-11.6	H	3.0	39.6	1.0	-50.2	-13.0	-37.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.									

LTE
Band 4
10MHz
QPSK

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-10-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter / X-Position

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

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

FCC Part 27

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1715MHz)									
3.4300	-9.8	V	3.0	39.5	1.0	-48.3	-13.0	-35.3	
5.1450	-12.3	V	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.8600	-10.2	V	3.0	39.7	1.0	-48.9	-13.0	-35.9	
3.4300	-9.5	H	3.0	39.5	1.0	-48.0	-13.0	-35.0	
5.1450	-12.3	H	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.8600	-10.3	H	3.0	39.7	1.0	-48.9	-13.0	-35.9	
Mid Channel (1732.5MHz)									
3.4650	-8.8	V	3.0	39.5	1.0	-47.4	-13.0	-34.4	
5.1975	-12.2	V	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.9300	-11.1	V	3.0	39.7	1.0	-49.7	-13.0	-36.7	
3.4650	-9.4	H	3.0	39.5	1.0	-47.9	-13.0	-34.9	
5.1975	-11.9	H	3.0	39.8	1.0	-50.7	-13.0	-37.7	
6.9300	-10.9	H	3.0	39.7	1.0	-49.5	-13.0	-36.5	
High Channel (1750MHz)									
3.5000	-11.2	V	3.0	39.5	1.0	-49.7	-13.0	-36.7	
5.2500	-12.8	V	3.0	39.8	1.0	-51.7	-13.0	-38.7	
7.0000	-11.3	V	3.0	39.6	1.0	-49.9	-13.0	-36.9	
3.5000	-10.4	H	3.0	39.5	1.0	-49.0	-13.0	-36.0	
5.2500	-12.0	H	3.0	39.8	1.0	-50.8	-13.0	-37.8	
7.0000	-11.4	H	3.0	39.6	1.0	-50.0	-13.0	-37.0	

Rev. 03.03.09

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

LTE
Band 4
10MHz
16QAM

UL Korea, Ltd Suwon Laboratory

Above 1GHz High Frequency Substitution Measurement

Company: Samsung

Project #: 4788164548

Date: 10-10-17

Test Engineer: YH Lim

Configuration: EUT / AC Adapter / X-Position

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

Chamber

Pre-amplifier

Filter

Limit

Chamber 2

AFS42

Filter 1

FCC Part 27

f GHz	SGreading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1715MHz)									
3.4300	-10.6	V	3.0	39.5	1.0	-49.1	-13.0	-36.1	
5.1450	-12.3	V	3.0	39.8	1.0	-51.1	-13.0	-38.1	
6.8600	-10.2	V	3.0	39.7	1.0	-48.8	-13.0	-35.8	
3.4300	-9.5	H	3.0	39.5	1.0	-48.0	-13.0	-35.0	
5.1450	-12.0	H	3.0	39.8	1.0	-50.8	-13.0	-37.8	
6.8600	-11.0	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
Mid Channel (1732.5MHz)									
3.4650	-8.7	V	3.0	39.5	1.0	-47.2	-13.0	-34.2	
5.1975	-12.4	V	3.0	39.8	1.0	-51.2	-13.0	-38.2	
6.9300	-11.1	V	3.0	39.7	1.0	-49.8	-13.0	-36.8	
3.4650	-9.3	H	3.0	39.5	1.0	-47.8	-13.0	-34.8	
5.1975	-12.0	H	3.0	39.8	1.0	-50.8	-13.0	-37.8	
6.9300	-11.0	H	3.0	39.7	1.0	-49.7	-13.0	-36.7	
High Channel (1750MHz)									
3.5000	-11.4	V	3.0	39.5	1.0	-50.0	-13.0	-37.0	
5.2500	-13.2	V	3.0	39.8	1.0	-52.0	-13.0	-39.0	
7.0000	-11.3	V	3.0	39.6	1.0	-49.9	-13.0	-36.9	
3.5000	-11.3	H	3.0	39.5	1.0	-49.8	-13.0	-36.8	
5.2500	-12.4	H	3.0	39.8	1.0	-51.2	-13.0	-38.2	
7.0000	-11.4	H	3.0	39.6	1.0	-50.0	-13.0	-37.0	

Rev. 03.03.09

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