WCDMA Band 2

WCDMA

Band 2
REL99

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: Rel99 Band 2 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3704.80	-7.9	V	3.0	40.9	1.0	-47.8	-13.0	-34.8	
5557.20	-9.0	V	3.0	40.1	1.0	-48.0	-13.0	-35.0	
7409.60	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5	
3704.80	-4.9	H	3.0	40.9	1.0	-44.7	-13.0	-31.7	
5557.20	-10.3	H	3.0	40.1	1.0	-49.4	-13.0	-36.4	
7409.60	-8.8	H	3.0	40.0	1.0	-47.8	-13.0	-34.8	
Mid Ch, 1880MHz									
3760.00	-5.3	V	3.0	40.8	1.0	-45.2	-13.0	-32.2	
5640.00	-10.6	V	3.0	40.0	1.0	-49.6	-13.0	-36.6	
7520.00	-8.9	V	3.0	40.0	1.0	-48.0	-13.0	-35.0	
3760.00	-1.6	H	3.0	40.8	1.0	-41.4	-13.0	-28.4	
5640.00	-10.9	H	3.0	40.0	1.0	-50.0	-13.0	-37.0	
7520.00	-9.1	H	3.0	40.0	1.0	-48.1	-13.0	-35.1	
High Ch, 1907.6MHz									
3815.20	-6.3	V	3.0	40.8	1.0	-46.1	-13.0	-33.1	
5722.80	-10.9	V	3.0	40.0	1.0	-49.9	-13.0	-36.9	
7630.40	-8.6	V	3.0	40.0	1.0	-47.7	-13.0	-34.7	
3815.20	-5.6	H	3.0	40.8	1.0	-45.3	-13.0	-32.3	
5722.80	-12.4	H	3.0	40.0	1.0	-51.4	-13.0	-38.4	
7630.40	-9.4	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	

WCDMA

Band 2
HSDPA

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: HSDPA Band 2 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz									
3704.80	-6.6	V	3.0	40.9	1.0	-46.4	-13.0	-33.4	
5557.20	-10.3	V	3.0	40.1	1.0	-49.3	-13.0	-36.3	
7409.60	-8.7	V	3.0	40.0	1.0	-47.8	-13.0	-34.8	
3704.80	-3.1	H	3.0	40.9	1.0	-42.9	-13.0	-29.9	
5557.20	-10.5	H	3.0	40.1	1.0	-49.6	-13.0	-36.6	
7409.60	-8.5	H	3.0	40.0	1.0	-47.6	-13.0	-34.6	
Mid Ch, 1880MHz									
3760.00	-4.1	V	3.0	40.8	1.0	-43.9	-13.0	-30.9	
5640.00	-11.5	V	3.0	40.0	1.0	-50.5	-13.0	-37.5	
7520.00	-9.2	V	3.0	40.0	1.0	-48.2	-13.0	-35.2	
3760.00	-1.5	H	3.0	40.8	1.0	-41.3	-13.0	-28.3	
5640.00	-11.6	H	3.0	40.0	1.0	-50.6	-13.0	-37.6	
7520.00	-9.5	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	
High Ch, 1907.6MHz									
3815.20	-5.2	V	3.0	40.8	1.0	-45.0	-13.0	-32.0	
5722.80	-11.4	V	3.0	40.0	1.0	-50.4	-13.0	-37.4	
7630.40	-9.1	V	3.0	40.0	1.0	-48.1	-13.0	-35.1	
3815.20	-3.9	H	3.0	40.8	1.0	-43.7	-13.0	-30.7	
5722.80	-12.8	H	3.0	40.0	1.0	-51.8	-13.0	-38.8	
7630.40	-9.5	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	

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WCDMA Band 4

WCDMA

Band 4
REL99

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: Rel99 Band 4 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.4MHz									
3424.80	-9.9	V	3.0	41.0	1.0	-49.9	-13.0	-36.9	
5137.20	-4.7	V	3.0	40.1	1.0	-43.8	-13.0	-30.8	
6849.60	-4.2	V	3.0	40.0	1.0	-43.2	-13.0	-30.2	
3424.80	-10.1	H	3.0	41.0	1.0	-50.1	-13.0	-37.1	
5137.20	-6.3	H	3.0	40.1	1.0	-45.4	-13.0	-32.4	
6849.60	-7.4	H	3.0	40.0	1.0	-46.4	-13.0	-33.4	
Mid Ch, 1732.6MHz									
3465.20	-13.1	V	3.0	41.0	1.0	-53.1	-13.0	-40.1	
5197.80	-5.8	V	3.0	40.1	1.0	-44.9	-13.0	-31.9	
6930.40	-7.5	V	3.0	40.0	1.0	-46.6	-13.0	-33.6	
3465.20	-12.0	H	3.0	41.0	1.0	-52.0	-13.0	-39.0	
5197.80	-4.5	H	3.0	40.1	1.0	-43.7	-13.0	-30.7	
6930.40	-9.7	H	3.0	40.0	1.0	-48.7	-13.0	-35.7	
High Ch, 1752.6MHz									
3505.20	-11.9	V	3.0	41.0	1.0	-51.9	-13.0	-38.9	
5257.80	-4.9	V	3.0	40.1	1.0	-44.0	-13.0	-31.0	
7010.40	-9.2	V	3.0	40.0	1.0	-48.2	-13.0	-35.2	
3505.20	-10.8	H	3.0	41.0	1.0	-50.8	-13.0	-37.8	
5257.80	-3.8	H	3.0	40.1	1.0	-42.9	-13.0	-29.9	
7010.40	-9.9	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	

WCDMA

Band 4
HSDPA

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: HSDPA Band 4 Harmonics

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.4MHz									
3424.80	-9.5	V	3.0	41.0	1.0	-49.5	-13.0	-36.5	
5137.20	-5.8	V	3.0	40.1	1.0	-44.9	-13.0	-31.9	
6849.60	-4.9	V	3.0	40.0	1.0	-43.9	-13.0	-30.9	
3424.80	-7.6	H	3.0	41.0	1.0	-47.6	-13.0	-34.6	
5137.20	-9.4	H	3.0	40.1	1.0	-48.5	-13.0	-35.5	
6849.60	-7.1	H	3.0	40.0	1.0	-46.2	-13.0	-33.2	
Mid Ch, 1732.6MHz									
3465.20	-12.4	V	3.0	41.0	1.0	-52.4	-13.0	-39.4	
5197.80	-7.2	V	3.0	40.1	1.0	-46.4	-13.0	-33.4	
6930.40	-7.8	V	3.0	40.0	1.0	-46.8	-13.0	-33.8	
3465.20	-11.0	H	3.0	41.0	1.0	-51.0	-13.0	-38.0	
5197.80	-9.3	H	3.0	40.1	1.0	-48.4	-13.0	-35.4	
6930.40	-9.4	H	3.0	40.0	1.0	-48.4	-13.0	-35.4	
High Ch, 1752.6MHz									
3505.20	-12.7	V	3.0	41.0	1.0	-52.6	-13.0	-39.6	
5257.80	-6.4	V	3.0	40.1	1.0	-45.5	-13.0	-32.5	
7010.40	-9.3	V	3.0	40.0	1.0	-48.3	-13.0	-35.3	
3505.20	-10.9	H	3.0	41.0	1.0	-50.9	-13.0	-37.9	
5257.80	-8.7	H	3.0	40.1	1.0	-47.8	-13.0	-34.8	
7010.40	-10.3	H	3.0	40.0	1.0	-49.4	-13.0	-36.4	

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LTE Band 5

LTE Band 5 10MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829MHz									
1658.00	-15.3	V	3.0	41.8	1.0	-56.1	-13.0	-43.1	
2487.00	-17.4	V	3.0	41.7	1.0	-58.1	-13.0	-45.1	
3316.00	-15.8	V	3.0	41.1	1.0	-55.9	-13.0	-42.9	
1658.00	-13.7	H	3.0	41.8	1.0	-54.6	-13.0	-41.6	
2487.00	-18.0	H	3.0	41.7	1.0	-58.7	-13.0	-45.7	
3316.00	-16.2	H	3.0	41.1	1.0	-56.3	-13.0	-43.3	
Mid Ch, 836.5MHz									
1673.00	-15.4	V	3.0	41.8	1.0	-56.3	-13.0	-43.3	
2509.50	-17.4	V	3.0	41.7	1.0	-58.0	-13.0	-45.0	
3346.00	-15.9	V	3.0	41.1	1.0	-56.0	-13.0	-43.0	
1673.00	-13.7	H	3.0	41.8	1.0	-54.6	-13.0	-41.6	
2509.50	-15.8	H	3.0	41.7	1.0	-56.5	-13.0	-43.5	
3346.00	-16.0	H	3.0	41.1	1.0	-56.1	-13.0	-43.1	
High Ch, 844MHz									
1688.00	-14.4	V	3.0	41.8	1.0	-55.3	-13.0	-42.3	
2532.00	-16.8	V	3.0	41.7	1.0	-57.5	-13.0	-44.5	
3376.00	-16.1	V	3.0	41.1	1.0	-56.2	-13.0	-43.2	
1688.00	-12.9	H	3.0	41.8	1.0	-53.8	-13.0	-40.8	
2532.00	-17.6	H	3.0	41.7	1.0	-58.2	-13.0	-45.2	
3376.00	-16.6	H	3.0	41.1	1.0	-56.6	-13.0	-43.6	

LTE Band 5 10MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829MHz									
1658.00	-15.0	V	3.0	41.8	1.0	-55.9	-13.0	-42.9	
2487.00	-16.9	V	3.0	41.7	1.0	-57.6	-13.0	-44.6	
3316.00	-16.0	V	3.0	41.1	1.0	-56.1	-13.0	-43.1	
1658.00	-13.6	H	3.0	41.8	1.0	-54.4	-13.0	-41.4	
2487.00	-17.6	H	3.0	41.7	1.0	-58.3	-13.0	-45.3	
3316.00	-16.3	H	3.0	41.1	1.0	-56.4	-13.0	-43.4	
Mid Ch, 836.5MHz									
1673.00	-14.5	V	3.0	41.8	1.0	-55.3	-13.0	-42.3	
2509.50	-17.4	V	3.0	41.7	1.0	-58.1	-13.0	-45.1	
3346.00	-16.4	V	3.0	41.1	1.0	-56.5	-13.0	-43.5	
1673.00	-14.0	H	3.0	41.8	1.0	-54.8	-13.0	-41.8	
2509.50	-17.7	H	3.0	41.7	1.0	-58.4	-13.0	-45.4	
3346.00	-16.2	H	3.0	41.1	1.0	-56.3	-13.0	-43.3	
High Ch, 844MHz									
1688.00	-14.3	V	3.0	41.8	1.0	-55.2	-13.0	-42.2	
2532.00	-16.6	V	3.0	41.7	1.0	-57.2	-13.0	-44.2	
3376.00	-16.1	V	3.0	41.1	1.0	-56.2	-13.0	-43.2	
1688.00	-13.1	H	3.0	41.8	1.0	-54.0	-13.0	-41.0	
2532.00	-17.1	H	3.0	41.7	1.0	-57.8	-13.0	-44.8	
3376.00	-16.6	H	3.0	41.1	1.0	-56.7	-13.0	-43.7	

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LTE Band 5 5MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-06
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz									
1651.00	-14.4	V	3.0	41.8	1.0	-55.2	-13.0	-42.2	
2476.50	-15.0	V	3.0	41.7	1.0	-55.7	-13.0	-42.7	
3302.00	-15.9	V	3.0	41.1	1.0	-56.1	-13.0	-43.1	
1651.00	-14.2	H	3.0	41.8	1.0	-55.0	-13.0	-42.0	
2476.50	-17.1	H	3.0	41.7	1.0	-57.8	-13.0	-44.8	
3302.00	-15.9	H	3.0	41.1	1.0	-56.0	-13.0	-43.0	
Mid Ch, 836.5MHz									
1673.00	-14.0	V	3.0	41.8	1.0	-54.8	-13.0	-41.8	
2509.50	-14.3	V	3.0	41.7	1.0	-55.0	-13.0	-42.0	
3346.00	-16.4	V	3.0	41.1	1.0	-56.5	-13.0	-43.5	
1673.00	-14.3	H	3.0	41.8	1.0	-55.1	-13.0	-42.1	
2509.50	-17.0	H	3.0	41.7	1.0	-57.7	-13.0	-44.7	
3346.00	-17.1	H	3.0	41.1	1.0	-57.2	-13.0	-44.2	
High Ch, 847.5MHz									
1695.00	-13.4	V	3.0	41.8	1.0	-54.2	-13.0	-41.2	
2542.50	-13.8	V	3.0	41.6	1.0	-54.4	-13.0	-41.4	
3390.00	-16.3	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1695.00	-14.9	H	3.0	41.8	1.0	-55.7	-13.0	-42.7	
2542.50	-16.2	H	3.0	41.6	1.0	-56.8	-13.0	-43.8	
3390.00	-16.8	H	3.0	41.1	1.0	-56.9	-13.0	-43.9	

LTE Band 5 5MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5MHz									
1653.00	-15.3	V	3.0	41.8	1.0	-56.1	-13.0	-43.1	
2479.50	-16.4	V	3.0	41.7	1.0	-57.1	-13.0	-44.1	
3306.00	-16.2	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1653.00	-14.5	H	3.0	41.8	1.0	-55.3	-13.0	-42.3	
2479.50	-15.7	H	3.0	41.7	1.0	-56.4	-13.0	-43.4	
3306.00	-16.5	H	3.0	41.1	1.0	-56.6	-13.0	-43.6	
Mid Ch, 836.5MHz									
1673.00	-14.8	V	3.0	41.8	1.0	-55.7	-13.0	-42.7	
2509.50	-16.8	V	3.0	41.7	1.0	-57.5	-13.0	-44.5	
3346.00	-16.7	V	3.0	41.1	1.0	-56.8	-13.0	-43.8	
1673.00	-14.3	H	3.0	41.8	1.0	-55.1	-13.0	-42.1	
2509.50	-16.2	H	3.0	41.7	1.0	-56.9	-13.0	-43.9	
3346.00	-16.3	H	3.0	41.1	1.0	-56.4	-13.0	-43.4	
High Ch, 846.5MHz									
1693.00	-14.8	V	3.0	41.8	1.0	-55.7	-13.0	-42.7	
2539.50	-15.5	V	3.0	41.6	1.0	-56.2	-13.0	-43.2	
3386.00	-16.3	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1693.00	-14.1	H	3.0	41.8	1.0	-54.9	-13.0	-41.9	
2539.50	-17.2	H	3.0	41.6	1.0	-57.8	-13.0	-44.8	
3386.00	-16.7	H	3.0	41.1	1.0	-56.7	-13.0	-43.7	

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LTE Band 5 3MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-06
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz									
1651.00	-13.1	V	3.0	41.8	1.0	-53.9	-13.0	-40.9	
2476.50	-17.4	V	3.0	41.7	1.0	-58.1	-13.0	-45.1	
3302.00	-15.6	V	3.0	41.1	1.0	-55.7	-13.0	-42.7	
1651.00	-15.4	H	3.0	41.8	1.0	-56.2	-13.0	-43.2	
2476.50	-17.5	H	3.0	41.7	1.0	-58.2	-13.0	-45.2	
3302.00	-16.3	H	3.0	41.1	1.0	-56.4	-13.0	-43.4	
Mid Ch, 836.5MHz									
1673.00	-13.2	V	3.0	41.8	1.0	-54.0	-13.0	-41.0	
2509.50	-16.1	V	3.0	41.7	1.0	-56.7	-13.0	-43.7	
3346.00	-15.8	V	3.0	41.1	1.0	-55.9	-13.0	-42.9	
1673.00	-15.9	H	3.0	41.8	1.0	-56.7	-13.0	-43.7	
2509.50	-17.5	H	3.0	41.7	1.0	-58.1	-13.0	-45.1	
3346.00	-16.2	H	3.0	41.1	1.0	-56.3	-13.0	-43.3	
High Ch, 847.5MHz									
1695.00	-12.6	V	3.0	41.8	1.0	-53.4	-13.0	-40.4	
2542.50	-16.0	V	3.0	41.6	1.0	-56.6	-13.0	-43.6	
3390.00	-15.8	V	3.0	41.1	1.0	-55.9	-13.0	-42.9	
1695.00	-15.5	H	3.0	41.8	1.0	-56.3	-13.0	-43.3	
2542.50	-17.7	H	3.0	41.6	1.0	-58.4	-13.0	-45.4	
3390.00	-15.8	H	3.0	41.1	1.0	-55.8	-13.0	-42.8	

LTE Band 5 3MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz									
1651.00	-15.5	V	3.0	41.8	1.0	-56.3	-13.0	-43.3	
2476.50	-17.2	V	3.0	41.7	1.0	-57.9	-13.0	-44.9	
3302.00	-16.0	V	3.0	41.1	1.0	-56.1	-13.0	-43.1	
1651.00	-15.6	H	3.0	41.8	1.0	-56.4	-13.0	-43.4	
2476.50	-17.8	H	3.0	41.7	1.0	-58.5	-13.0	-45.5	
3302.00	-16.3	H	3.0	41.1	1.0	-56.5	-13.0	-43.5	
Mid Ch, 836.5MHz									
1673.00	-14.8	V	3.0	41.8	1.0	-55.7	-13.0	-42.7	
2509.50	-16.4	V	3.0	41.7	1.0	-57.1	-13.0	-44.1	
3346.00	-16.6	V	3.0	41.1	1.0	-56.6	-13.0	-43.6	
1673.00	-13.6	H	3.0	41.8	1.0	-54.4	-13.0	-41.4	
2509.50	-17.9	H	3.0	41.7	1.0	-58.6	-13.0	-45.6	
3346.00	-16.4	H	3.0	41.1	1.0	-56.5	-13.0	-43.5	
High Ch, 847.5MHz									
1695.00	-14.7	V	3.0	41.8	1.0	-55.5	-13.0	-42.5	
2542.50	-15.3	V	3.0	41.6	1.0	-55.9	-13.0	-42.9	
3390.00	-15.5	V	3.0	41.1	1.0	-55.6	-13.0	-42.6	
1695.00	-12.9	H	3.0	41.8	1.0	-53.8	-13.0	-40.8	
2542.50	-16.1	H	3.0	41.6	1.0	-56.7	-13.0	-43.7	
3390.00	-16.5	H	3.0	41.1	1.0	-56.5	-13.0	-43.5	

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LTE Band 5 1.4MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1649.40	-15.0	V	3.0	41.8	1.0	-55.8	-13.0	-42.8	
2474.10	-17.9	V	3.0	41.7	1.0	-58.6	-13.0	-45.6	
3298.80	-15.8	V	3.0	41.1	1.0	-55.9	-13.0	-42.9	
1649.40	-16.1	H	3.0	41.8	1.0	-56.9	-13.0	-43.9	
2474.10	-17.9	H	3.0	41.7	1.0	-58.6	-13.0	-45.6	
3298.80	-16.7	H	3.0	41.1	1.0	-56.8	-13.0	-43.8	
Mid Ch, 836.5MHz									
1673.00	-15.7	V	3.0	41.8	1.0	-56.5	-13.0	-43.5	
2509.50	-16.2	V	3.0	41.7	1.0	-56.9	-13.0	-43.9	
3346.00	-16.2	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1673.00	-13.5	H	3.0	41.8	1.0	-54.3	-13.0	-41.3	
2509.50	-17.8	H	3.0	41.7	1.0	-58.5	-13.0	-45.5	
3346.00	-31.2	H	3.0	41.1	1.0	-71.3	-13.0	-58.3	
High Ch, 848.3MHz									
1696.60	-14.6	V	3.0	41.8	1.0	-55.4	-13.0	-42.4	
2544.90	-16.2	V	3.0	41.6	1.0	-56.8	-13.0	-43.8	
3393.20	-15.8	V	3.0	41.1	1.0	-55.9	-13.0	-42.9	
1696.60	-14.1	H	3.0	41.8	1.0	-55.0	-13.0	-42.0	
2544.90	-15.8	H	3.0	41.6	1.0	-56.5	-13.0	-43.5	
3393.20	-16.2	H	3.0	41.1	1.0	-56.3	-13.0	-43.3	

LTE Band 5 1.4MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 5 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz									
1649.40	-14.8	V	3.0	41.8	1.0	-55.6	-13.0	-42.6	
2474.10	-17.5	V	3.0	41.7	1.0	-58.2	-13.0	-45.2	
3298.80	-16.2	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1649.40	-15.7	H	3.0	41.8	1.0	-56.6	-13.0	-43.6	
2474.10	-17.7	H	3.0	41.7	1.0	-58.4	-13.0	-45.4	
3298.80	-16.4	H	3.0	41.1	1.0	-56.6	-13.0	-43.6	
Mid Ch, 836.5MHz									
1673.00	-15.9	V	3.0	41.8	1.0	-56.7	-13.0	-43.7	
2509.50	-16.0	V	3.0	41.7	1.0	-56.7	-13.0	-43.7	
3346.00	-16.5	V	3.0	41.1	1.0	-56.6	-13.0	-43.6	
1673.00	-14.0	H	3.0	41.8	1.0	-54.8	-13.0	-41.8	
2509.50	-17.6	H	3.0	41.7	1.0	-58.3	-13.0	-45.3	
3346.00	-16.6	H	3.0	41.1	1.0	-56.7	-13.0	-43.7	
High Ch, 848.3MHz									
1696.60	-14.4	V	3.0	41.8	1.0	-55.3	-13.0	-42.3	
2544.90	-15.4	V	3.0	41.6	1.0	-56.0	-13.0	-43.0	
3393.20	-16.2	V	3.0	41.1	1.0	-56.3	-13.0	-43.3	
1696.60	-13.6	H	3.0	41.8	1.0	-54.5	-13.0	-41.5	
2544.90	-15.4	H	3.0	41.6	1.0	-56.0	-13.0	-43.0	
3393.20	-16.2	H	3.0	41.1	1.0	-56.3	-13.0	-43.3	

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LTE Band 66

LTE

Band 66

20MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company:	Samsung
Project #:	4788397760
Date:	2018-04-06
Test Engineer:	45585
Configuration:	EUT / Adapter / Earphone, X-Position
Location:	Chamber 3
Mode:	LTE_QPSK Band 66 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720MHz									
3440.00	-2.7	V	3.0	41.0	1.0	-42.7	-13.0	-29.7	
5160.00	-0.8	V	3.0	40.1	1.0	-39.9	-13.0	-26.9	
6880.00	-2.6	V	3.0	40.0	1.0	-41.6	-13.0	-28.6	
8600.00	-7.6	V	3.0	39.8	1.0	-46.4	-13.0	-33.4	
10320.00	-3.2	V	3.0	40.1	1.0	-42.3	-13.0	-29.3	
3440.00	0.0	H	3.0	41.0	1.0	-40.0	-13.0	-27.0	
5160.00	-3.6	H	3.0	40.1	1.0	-42.7	-13.0	-29.7	
6880.00	-4.9	H	3.0	40.0	1.0	-43.9	-13.0	-30.9	
8600.00	-7.0	H	3.0	39.8	1.0	-45.7	-13.0	-32.7	
10320.00	-5.8	H	3.0	40.1	1.0	-44.9	-13.0	-31.9	
Mid Ch, 1745MHz									
3490.00	-8.7	V	3.0	41.0	1.0	-48.7	-13.0	-35.7	
5235.00	2.5	V	3.0	40.1	1.0	-36.6	-13.0	-23.6	
6980.00	-2.5	V	3.0	40.0	1.0	-41.5	-13.0	-28.5	
8725.00	-7.6	V	3.0	39.7	1.0	-46.3	-13.0	-33.3	
10470.00	-3.8	V	3.0	40.1	1.0	-42.9	-13.0	-29.9	
3490.00	-5.1	H	3.0	41.0	1.0	-45.1	-13.0	-32.1	
5235.00	-1.0	H	3.0	40.1	1.0	-40.1	-13.0	-27.1	
6980.00	-5.4	H	3.0	40.0	1.0	-44.4	-13.0	-31.4	
8725.00	-7.8	H	3.0	39.7	1.0	-46.5	-13.0	-33.5	
10470.00	-5.0	H	3.0	40.1	1.0	-44.1	-13.0	-31.1	
High Ch, 1770MHz									
3540.00	-10.4	V	3.0	41.0	1.0	-50.3	-13.0	-37.3	
5310.00	1.8	V	3.0	40.1	1.0	-37.3	-13.0	-24.3	
7080.00	-5.6	V	3.0	40.0	1.0	-44.7	-13.0	-31.7	
8850.00	-7.6	V	3.0	39.6	1.0	-46.3	-13.0	-33.3	
10620.00	-4.4	V	3.0	40.0	1.0	-43.5	-13.0	-30.5	
3540.00	-4.5	H	3.0	41.0	1.0	-44.4	-13.0	-31.4	
5310.00	-0.7	H	3.0	40.1	1.0	-39.8	-13.0	-26.8	
7080.00	-8.2	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
8850.00	-8.0	H	3.0	39.6	1.0	-46.6	-13.0	-33.6	
10620.00	-5.4	H	3.0	40.0	1.0	-44.4	-13.0	-31.4	

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LTE

Band 66

20MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-06
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720MHz									
3440.00	-2.3	V	3.0	41.0	1.0	-42.3	-13.0	-29.3	
5160.00	-1.3	V	3.0	40.1	1.0	-40.4	-13.0	-27.4	
6880.00	-2.0	V	3.0	40.0	1.0	-41.0	-13.0	-28.0	
8600.00	-7.8	V	3.0	39.8	1.0	-46.6	-13.0	-33.6	
10320.00	-3.5	V	3.0	40.1	1.0	-42.6	-13.0	-29.6	
3440.00	-2.5	H	3.0	41.0	1.0	-42.5	-13.0	-29.5	
5160.00	-4.3	H	3.0	40.1	1.0	-43.4	-13.0	-30.4	
6880.00	-4.8	H	3.0	40.0	1.0	-43.8	-13.0	-30.8	
8600.00	-7.6	H	3.0	39.8	1.0	-46.3	-13.0	-33.3	
10320.00	-6.2	H	3.0	40.1	1.0	-45.3	-13.0	-32.3	
Mid Ch, 1745MHz									
3490.00	-8.9	V	3.0	41.0	1.0	-48.9	-13.0	-35.9	
5235.00	2.4	V	3.0	40.1	1.0	-36.7	-13.0	-23.7	
6980.00	-2.4	V	3.0	40.0	1.0	-41.4	-13.0	-28.4	
8725.00	-7.5	V	3.0	39.7	1.0	-46.2	-13.0	-33.2	
10470.00	-4.7	V	3.0	40.1	1.0	-43.8	-13.0	-30.8	
3490.00	-4.5	H	3.0	41.0	1.0	-44.5	-13.0	-31.5	
5235.00	-1.2	H	3.0	40.1	1.0	-40.3	-13.0	-27.3	
6980.00	-6.9	H	3.0	40.0	1.0	-46.0	-13.0	-33.0	
8725.00	-7.8	H	3.0	39.7	1.0	-46.5	-13.0	-33.5	
10470.00	-9.1	H	3.0	40.1	1.0	-48.2	-13.0	-35.2	
High Ch, 1770MHz									
3540.00	-9.5	V	3.0	41.0	1.0	-49.5	-13.0	-36.5	
5310.00	1.7	V	3.0	40.1	1.0	-37.4	-13.0	-24.4	
7080.00	-4.9	V	3.0	40.0	1.0	-44.0	-13.0	-31.0	
8850.00	-7.8	V	3.0	39.6	1.0	-46.4	-13.0	-33.4	
10620.00	-3.4	V	3.0	40.0	1.0	-42.5	-13.0	-29.5	
3540.00	-4.7	H	3.0	41.0	1.0	-44.7	-13.0	-31.7	
5310.00	-0.6	H	3.0	40.1	1.0	-39.7	-13.0	-26.7	
7080.00	-8.0	H	3.0	40.0	1.0	-47.1	-13.0	-34.1	
8850.00	-7.9	H	3.0	39.6	1.0	-46.5	-13.0	-33.5	
10620.00	-5.3	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	

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LTE

Band 66

15MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-06
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 66 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5MHz									
3435.00	-2.7	V	3.0	41.0	1.0	-42.7	-13.0	-29.7	
5152.50	-0.7	V	3.0	40.1	1.0	-39.8	-13.0	-26.8	
6870.00	-1.9	V	3.0	40.0	1.0	-40.9	-13.0	-27.9	
8587.50	-8.0	V	3.0	39.8	1.0	-46.7	-13.0	-33.7	
10305.00	-6.4	V	3.0	40.1	1.0	-45.5	-13.0	-32.5	
3435.00	1.2	H	3.0	41.0	1.0	-38.8	-13.0	-25.8	
5152.50	-4.5	H	3.0	40.1	1.0	-43.6	-13.0	-30.6	
6870.00	-4.4	H	3.0	40.0	1.0	-43.4	-13.0	-30.4	
8587.50	-7.8	H	3.0	39.8	1.0	-46.6	-13.0	-33.6	
10305.00	-6.2	H	3.0	40.1	1.0	-45.3	-13.0	-32.3	
Mid Ch, 1745MHz									
3490.00	-7.8	V	3.0	41.0	1.0	-47.8	-13.0	-34.8	
5235.00	2.0	V	3.0	40.1	1.0	-37.1	-13.0	-24.1	
6980.00	-3.1	V	3.0	40.0	1.0	-42.2	-13.0	-29.2	
8725.00	-7.3	V	3.0	39.7	1.0	-46.0	-13.0	-33.0	
10470.00	-4.2	V	3.0	40.1	1.0	-43.3	-13.0	-30.3	
3490.00	-5.1	H	3.0	41.0	1.0	-45.1	-13.0	-32.1	
5235.00	-1.4	H	3.0	40.1	1.0	-40.5	-13.0	-27.5	
6980.00	-5.9	H	3.0	40.0	1.0	-45.0	-13.0	-32.0	
8725.00	-7.6	H	3.0	39.7	1.0	-46.3	-13.0	-33.3	
10470.00	-6.1	H	3.0	40.1	1.0	-45.2	-13.0	-32.2	
High Ch, 1772.5MHz									
3545.00	-9.1	V	3.0	41.0	1.0	-49.0	-13.0	-36.0	
5317.50	1.8	V	3.0	40.1	1.0	-37.3	-13.0	-24.3	
7090.00	-5.7	V	3.0	40.0	1.0	-44.7	-13.0	-31.7	
8862.50	-7.7	V	3.0	39.6	1.0	-46.4	-13.0	-33.4	
10635.00	-4.5	V	3.0	40.0	1.0	-43.6	-13.0	-30.6	
3545.00	-5.8	H	3.0	41.0	1.0	-45.8	-13.0	-32.8	
5317.50	-0.4	H	3.0	40.1	1.0	-39.5	-13.0	-26.5	
7090.00	-8.8	H	3.0	40.0	1.0	-47.8	-13.0	-34.8	
8862.50	-7.7	H	3.0	39.6	1.0	-46.3	-13.0	-33.3	
10635.00	-5.2	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	

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LTE

Band 66

15MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5MHz									
3435.00	-15.9	V	3.0	41.0	1.0	-55.9	-13.0	-42.9	
5152.50	-0.7	V	3.0	40.1	1.0	-39.9	-13.0	-26.9	
6870.00	-2.4	V	3.0	40.0	1.0	-41.4	-13.0	-28.4	
8587.50	-7.7	V	3.0	39.8	1.0	-46.5	-13.0	-33.5	
10305.00	-3.3	V	3.0	40.1	1.0	-42.4	-13.0	-29.4	
3435.00	0.6	H	3.0	41.0	1.0	-39.5	-13.0	-26.5	
5152.50	-4.4	H	3.0	40.1	1.0	-43.6	-13.0	-30.6	
6870.00	-4.3	H	3.0	40.0	1.0	-43.3	-13.0	-30.3	
8587.50	-7.6	H	3.0	39.8	1.0	-46.4	-13.0	-33.4	
10305.00	-6.3	H	3.0	40.1	1.0	-45.4	-13.0	-32.4	
Mid Ch, 1745MHz									
3490.00	-7.4	V	3.0	41.0	1.0	-47.4	-13.0	-34.4	
5235.00	2.1	V	3.0	40.1	1.0	-37.0	-13.0	-24.0	
6980.00	-2.2	V	3.0	40.0	1.0	-41.2	-13.0	-28.2	
8725.00	-7.3	V	3.0	39.7	1.0	-46.0	-13.0	-33.0	
10470.00	-4.0	V	3.0	40.1	1.0	-43.1	-13.0	-30.1	
3490.00	-4.7	H	3.0	41.0	1.0	-44.7	-13.0	-31.7	
5235.00	-1.0	H	3.0	40.1	1.0	-40.1	-13.0	-27.1	
6980.00	-6.1	H	3.0	40.0	1.0	-45.1	-13.0	-32.1	
8725.00	-7.7	H	3.0	39.7	1.0	-46.4	-13.0	-33.4	
10470.00	-6.1	H	3.0	40.1	1.0	-45.2	-13.0	-32.2	
High Ch, 1772.5MHz									
3545.00	-9.4	V	3.0	41.0	1.0	-49.4	-13.0	-36.4	
5317.50	1.7	V	3.0	40.1	1.0	-37.4	-13.0	-24.4	
7090.00	-6.1	V	3.0	40.0	1.0	-45.1	-13.0	-32.1	
8862.50	-6.4	V	3.0	39.6	1.0	-45.1	-13.0	-32.1	
10635.00	-4.1	V	3.0	40.0	1.0	-43.1	-13.0	-30.1	
3545.00	-5.5	H	3.0	41.0	1.0	-45.5	-13.0	-32.5	
5317.50	-0.5	H	3.0	40.1	1.0	-39.6	-13.0	-26.6	
7090.00	-7.3	H	3.0	40.0	1.0	-46.4	-13.0	-33.4	
8862.50	-8.1	H	3.0	39.6	1.0	-46.7	-13.0	-33.7	
10635.00	-4.8	H	3.0	40.0	1.0	-43.8	-13.0	-30.8	

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LTE

Band 66

10MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 66 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715MHz									
3430.00	-1.6	V	3.0	41.0	1.0	-41.6	-13.0	-28.6	
5145.00	-0.7	V	3.0	40.1	1.0	-39.8	-13.0	-26.8	
6860.00	-1.8	V	3.0	40.0	1.0	-40.8	-13.0	-27.8	
8575.00	-8.1	V	3.0	39.8	1.0	-46.9	-13.0	-33.9	
10290.00	-4.1	V	3.0	40.1	1.0	-43.2	-13.0	-30.2	
3430.00	0.8	H	3.0	41.0	1.0	-39.2	-13.0	-26.2	
5145.00	-4.5	H	3.0	40.1	1.0	-43.6	-13.0	-30.6	
6860.00	-3.5	H	3.0	40.0	1.0	-42.5	-13.0	-29.5	
8575.00	-8.2	H	3.0	39.8	1.0	-46.9	-13.0	-33.9	
10290.00	-6.2	H	3.0	40.1	1.0	-45.3	-13.0	-32.3	
Mid Ch, 1745MHz									
3490.00	-13.4	V	3.0	41.0	1.0	-53.4	-13.0	-40.4	
5235.00	-13.4	V	3.0	40.1	1.0	-52.5	-13.0	-39.5	
6980.00	-9.5	V	3.0	40.0	1.0	-48.6	-13.0	-35.6	
8725.00	-7.5	V	3.0	39.7	1.0	-46.2	-13.0	-33.2	
10470.00	-3.0	V	3.0	40.1	1.0	-42.1	-13.0	-29.1	
3490.00	-4.4	H	3.0	41.0	1.0	-44.5	-13.0	-31.5	
5235.00	-1.1	H	3.0	40.1	1.0	-40.2	-13.0	-27.2	
6980.00	-5.5	H	3.0	40.0	1.0	-44.5	-13.0	-31.5	
8725.00	-7.9	H	3.0	39.7	1.0	-46.5	-13.0	-33.5	
10470.00	-6.1	H	3.0	40.1	1.0	-45.2	-13.0	-32.2	
High Ch, 1775MHz									
3550.00	-7.8	V	3.0	41.0	1.0	-47.8	-13.0	-34.8	
5325.00	1.5	V	3.0	40.1	1.0	-37.6	-13.0	-24.6	
7100.00	-6.1	V	3.0	40.0	1.0	-45.2	-13.0	-32.2	
8875.00	-7.2	V	3.0	39.6	1.0	-45.8	-13.0	-32.8	
10650.00	-2.3	V	3.0	40.0	1.0	-41.3	-13.0	-28.3	
3550.00	-4.9	H	3.0	41.0	1.0	-44.9	-13.0	-31.9	
5325.00	-0.3	H	3.0	40.1	1.0	-39.4	-13.0	-26.4	
7100.00	-7.6	H	3.0	40.0	1.0	-46.6	-13.0	-33.6	
8875.00	-8.0	H	3.0	39.6	1.0	-46.6	-13.0	-33.6	
10650.00	-4.9	H	3.0	40.0	1.0	-43.9	-13.0	-30.9	

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LTE

Band 66

10MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715MHz									
3430.00	-1.2	V	3.0	41.0	1.0	-41.3	-13.0	-28.3	
5145.00	-0.6	V	3.0	40.1	1.0	-39.7	-13.0	-26.7	
6860.00	-1.8	V	3.0	40.0	1.0	-40.8	-13.0	-27.8	
8575.00	-7.8	V	3.0	39.8	1.0	-46.6	-13.0	-33.6	
10290.00	-3.5	V	3.0	40.1	1.0	-42.6	-13.0	-29.6	
3430.00	2.0	H	3.0	41.0	1.0	-38.1	-13.0	-25.1	
5145.00	-5.2	H	3.0	40.1	1.0	-44.3	-13.0	-31.3	
6860.00	-3.8	H	3.0	40.0	1.0	-42.8	-13.0	-29.8	
8575.00	-8.2	H	3.0	39.8	1.0	-46.9	-13.0	-33.9	
10290.00	-6.3	H	3.0	40.1	1.0	-45.4	-13.0	-32.4	
Mid Ch, 1745MHz									
3490.00	-7.2	V	3.0	41.0	1.0	-47.2	-13.0	-34.2	
5235.00	2.3	V	3.0	40.1	1.0	-36.8	-13.0	-23.8	
6980.00	-2.1	V	3.0	40.0	1.0	-41.2	-13.0	-28.2	
8725.00	-7.8	V	3.0	39.7	1.0	-46.5	-13.0	-33.5	
10470.00	-4.0	V	3.0	40.1	1.0	-43.1	-13.0	-30.1	
3490.00	-4.9	H	3.0	41.0	1.0	-44.9	-13.0	-31.9	
5235.00	-2.1	H	3.0	40.1	1.0	-41.2	-13.0	-28.2	
6980.00	-5.2	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	
8725.00	-7.6	H	3.0	39.7	1.0	-46.3	-13.0	-33.3	
10470.00	-6.3	H	3.0	40.1	1.0	-45.4	-13.0	-32.4	
High Ch, 1775MHz									
3550.00	-8.2	V	3.0	41.0	1.0	-48.1	-13.0	-35.1	
5325.00	2.0	V	3.0	40.1	1.0	-37.0	-13.0	-24.0	
7100.00	-5.4	V	3.0	40.0	1.0	-44.4	-13.0	-31.4	
8875.00	-7.7	V	3.0	39.6	1.0	-46.4	-13.0	-33.4	
10650.00	-3.1	V	3.0	40.0	1.0	-42.2	-13.0	-29.2	
3550.00	-5.2	H	3.0	41.0	1.0	-45.2	-13.0	-32.2	
5325.00	-0.1	H	3.0	40.1	1.0	-39.2	-13.0	-26.2	
7100.00	-9.0	H	3.0	40.0	1.0	-48.0	-13.0	-35.0	
8875.00	-7.8	H	3.0	39.6	1.0	-46.4	-13.0	-33.4	
10650.00	-4.2	H	3.0	40.0	1.0	-43.2	-13.0	-30.2	

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LTE

Band 66

5MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 66 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-1.3	V	3.0	41.0	1.0	-41.3	-13.0	-28.3	
5137.50	-1.1	V	3.0	40.1	1.0	-40.2	-13.0	-27.2	
6850.00	-1.3	V	3.0	40.0	1.0	-40.3	-13.0	-27.3	
8562.50	-8.1	V	3.0	39.8	1.0	-46.9	-13.0	-33.9	
10275.00	-2.8	V	3.0	40.1	1.0	-41.9	-13.0	-28.9	
3425.00	0.7	H	3.0	41.0	1.0	-39.3	-13.0	-26.3	
5137.50	-4.9	H	3.0	40.1	1.0	-44.1	-13.0	-31.1	
6850.00	-3.3	H	3.0	40.0	1.0	-42.3	-13.0	-29.3	
8562.50	-7.8	H	3.0	39.8	1.0	-46.6	-13.0	-33.6	
10275.00	-5.7	H	3.0	40.1	1.0	-44.8	-13.0	-31.8	
Mid Ch, 1745MHz									
3490.00	-9.5	V	3.0	41.0	1.0	-49.5	-13.0	-36.5	
5235.00	1.9	V	3.0	40.1	1.0	-37.2	-13.0	-24.2	
6980.00	-3.1	V	3.0	40.0	1.0	-42.2	-13.0	-29.2	
8725.00	-7.6	V	3.0	39.7	1.0	-46.3	-13.0	-33.3	
10470.00	-4.1	V	3.0	40.1	1.0	-43.2	-13.0	-30.2	
3490.00	-3.8	H	3.0	41.0	1.0	-43.8	-13.0	-30.8	
5235.00	-1.4	H	3.0	40.1	1.0	-40.5	-13.0	-27.5	
6980.00	-5.2	H	3.0	40.0	1.0	-44.3	-13.0	-31.3	
8725.00	-7.7	H	3.0	39.7	1.0	-46.4	-13.0	-33.4	
10470.00	-6.3	H	3.0	40.1	1.0	-45.4	-13.0	-32.4	
High Ch, 1777.5MHz									
3555.00	-9.7	V	3.0	41.0	1.0	-49.7	-13.0	-36.7	
5332.50	1.6	V	3.0	40.1	1.0	-37.5	-13.0	-24.5	
7110.00	-6.6	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
8887.50	-7.1	V	3.0	39.6	1.0	-45.7	-13.0	-32.7	
10665.00	-2.9	V	3.0	40.0	1.0	-42.0	-13.0	-29.0	
3555.00	-6.5	H	3.0	41.0	1.0	-46.4	-13.0	-33.4	
5332.50	-1.1	H	3.0	40.1	1.0	-40.2	-13.0	-27.2	
7110.00	-8.1	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
8887.50	-8.5	H	3.0	39.6	1.0	-47.1	-13.0	-34.1	
10665.00	-4.5	H	3.0	40.0	1.0	-43.6	-13.0	-30.6	

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LTE

Band 66

5MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-0.3	V	3.0	41.0	1.0	-40.3	-13.0	-27.3	
5137.50	-13.1	V	3.0	40.1	1.0	-52.2	-13.0	-39.2	
6850.00	-10.3	V	3.0	40.0	1.0	-49.3	-13.0	-36.3	
8562.50	-7.9	V	3.0	39.8	1.0	-46.7	-13.0	-33.7	
10275.00	-3.8	V	3.0	40.1	1.0	-42.9	-13.0	-29.9	
3425.00	1.2	H	3.0	41.0	1.0	-38.9	-13.0	-25.9	
5137.50	-4.5	H	3.0	40.1	1.0	-43.6	-13.0	-30.6	
6850.00	-3.1	H	3.0	40.0	1.0	-42.1	-13.0	-29.1	
8562.50	-8.2	H	3.0	39.8	1.0	-47.0	-13.0	-34.0	
10275.00	-5.9	H	3.0	40.1	1.0	-45.1	-13.0	-32.1	
Mid Ch, 1745MHz									
3490.00	-8.2	V	3.0	41.0	1.0	-48.2	-13.0	-35.2	
5235.00	2.0	V	3.0	40.1	1.0	-37.1	-13.0	-24.1	
6980.00	-2.5	V	3.0	40.0	1.0	-41.6	-13.0	-28.6	
8725.00	-7.8	V	3.0	39.7	1.0	-46.4	-13.0	-33.4	
10470.00	-5.2	V	3.0	40.1	1.0	-44.3	-13.0	-31.3	
3490.00	-4.5	H	3.0	41.0	1.0	-44.5	-13.0	-31.5	
5235.00	-1.2	H	3.0	40.1	1.0	-40.3	-13.0	-27.3	
6980.00	-5.9	H	3.0	40.0	1.0	-45.0	-13.0	-32.0	
8725.00	-7.9	H	3.0	39.7	1.0	-46.5	-13.0	-33.5	
10470.00	-5.3	H	3.0	40.1	1.0	-44.4	-13.0	-31.4	
High Ch, 1777.5MHz									
3555.00	-9.5	V	3.0	41.0	1.0	-49.5	-13.0	-36.5	
5332.50	1.3	V	3.0	40.1	1.0	-37.8	-13.0	-24.8	
7110.00	-6.9	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
8887.50	-8.1	V	3.0	39.6	1.0	-46.7	-13.0	-33.7	
10665.00	-3.5	V	3.0	40.0	1.0	-42.6	-13.0	-29.6	
3555.00	-7.4	H	3.0	41.0	1.0	-47.4	-13.0	-34.4	
5332.50	-0.9	H	3.0	40.1	1.0	-40.0	-13.0	-27.0	
7110.00	-8.1	H	3.0	40.0	1.0	-47.2	-13.0	-34.2	
8887.50	-8.0	H	3.0	39.6	1.0	-46.7	-13.0	-33.7	
10665.00	-5.0	H	3.0	40.0	1.0	-44.0	-13.0	-31.0	

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LTE

Band 66

3MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 66 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5MHz									
3423.00	-1.4	V	3.0	41.0	1.0	-41.4	-13.0	-28.4	
5134.50	-0.4	V	3.0	40.1	1.0	-39.5	-13.0	-26.5	
6846.00	-1.2	V	3.0	40.0	1.0	-40.2	-13.0	-27.2	
8557.50	-8.1	V	3.0	39.8	1.0	-46.9	-13.0	-33.9	
10269.00	-3.2	V	3.0	40.1	1.0	-42.4	-13.0	-29.4	
3423.00	0.1	H	3.0	41.0	1.0	-40.0	-13.0	-27.0	
5134.50	-4.9	H	3.0	40.1	1.0	-44.0	-13.0	-31.0	
6846.00	-2.9	H	3.0	40.0	1.0	-42.0	-13.0	-29.0	
8557.50	-8.4	H	3.0	39.8	1.0	-47.2	-13.0	-34.2	
10269.00	-6.0	H	3.0	40.1	1.0	-45.2	-13.0	-32.2	
Mid Ch, 1745MHz									
3490.00	-9.0	V	3.0	41.0	1.0	-49.0	-13.0	-36.0	
5235.00	1.9	V	3.0	40.1	1.0	-37.2	-13.0	-24.2	
6980.00	-2.5	V	3.0	40.0	1.0	-41.5	-13.0	-28.5	
8725.00	-7.5	V	3.0	39.7	1.0	-46.1	-13.0	-33.1	
10470.00	-3.4	V	3.0	40.1	1.0	-42.5	-13.0	-29.5	
3490.00	-3.9	H	3.0	41.0	1.0	-43.9	-13.0	-30.9	
5235.00	-1.4	H	3.0	40.1	1.0	-40.5	-13.0	-27.5	
6980.00	-5.8	H	3.0	40.0	1.0	-44.9	-13.0	-31.9	
8725.00	-7.4	H	3.0	39.7	1.0	-46.1	-13.0	-33.1	
10470.00	-6.4	H	3.0	40.1	1.0	-45.5	-13.0	-32.5	
High Ch, 1778.5MHz									
3557.00	-9.2	V	3.0	41.0	1.0	-49.2	-13.0	-36.2	
5335.50	0.7	V	3.0	40.1	1.0	-38.4	-13.0	-25.4	
7114.00	-7.3	V	3.0	40.0	1.0	-46.4	-13.0	-33.4	
8892.50	-7.2	V	3.0	39.6	1.0	-45.8	-13.0	-32.8	
10671.00	-3.2	V	3.0	40.0	1.0	-42.2	-13.0	-29.2	
3557.00	-6.0	H	3.0	41.0	1.0	-45.9	-13.0	-32.9	
5335.50	-2.5	H	3.0	40.1	1.0	-41.6	-13.0	-28.6	
7114.00	-8.9	H	3.0	40.0	1.0	-48.0	-13.0	-35.0	
8892.50	-8.3	H	3.0	39.6	1.0	-46.9	-13.0	-33.9	
10671.00	-4.5	H	3.0	40.0	1.0	-43.5	-13.0	-30.5	

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LTE

Band 66

3MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5MHz									
3423.00	-1.3	V	3.0	41.0	1.0	-41.4	-13.0	-28.4	
5134.50	-0.8	V	3.0	40.1	1.0	-39.9	-13.0	-26.9	
6846.00	-0.8	V	3.0	40.0	1.0	-39.8	-13.0	-26.8	
8557.50	-7.7	V	3.0	39.8	1.0	-46.4	-13.0	-33.4	
10269.00	-4.0	V	3.0	40.1	1.0	-43.1	-13.0	-30.1	
3423.00	1.3	H	3.0	41.0	1.0	-38.8	-13.0	-25.8	
5134.50	-5.3	H	3.0	40.1	1.0	-44.4	-13.0	-31.4	
6846.00	-2.9	H	3.0	40.0	1.0	-41.9	-13.0	-28.9	
8557.50	-8.3	H	3.0	39.8	1.0	-47.1	-13.0	-34.1	
10269.00	-6.1	H	3.0	40.1	1.0	-45.2	-13.0	-32.2	
Mid Ch, 1745MHz									
3490.00	-9.0	V	3.0	41.0	1.0	-49.0	-13.0	-36.0	
5235.00	2.2	V	3.0	40.1	1.0	-36.9	-13.0	-23.9	
6980.00	-3.4	V	3.0	40.0	1.0	-42.4	-13.0	-29.4	
8725.00	-7.5	V	3.0	39.7	1.0	-46.1	-13.0	-33.1	
10470.00	-4.0	V	3.0	40.1	1.0	-43.1	-13.0	-30.1	
3490.00	-5.5	H	3.0	41.0	1.0	-45.5	-13.0	-32.5	
5235.00	-1.0	H	3.0	40.1	1.0	-40.1	-13.0	-27.1	
6980.00	-6.2	H	3.0	40.0	1.0	-45.2	-13.0	-32.2	
8725.00	-7.5	H	3.0	39.7	1.0	-46.2	-13.0	-33.2	
10470.00	-5.5	H	3.0	40.1	1.0	-44.6	-13.0	-31.6	
High Ch, 1778.5MHz									
3557.00	-9.7	V	3.0	41.0	1.0	-49.6	-13.0	-36.6	
5335.50	0.9	V	3.0	40.1	1.0	-38.2	-13.0	-25.2	
7114.00	-7.1	V	3.0	40.0	1.0	-46.2	-13.0	-33.2	
8892.50	-7.7	V	3.0	39.6	1.0	-46.4	-13.0	-33.4	
10671.00	-4.8	V	3.0	40.0	1.0	-43.9	-13.0	-30.9	
3557.00	-6.5	H	3.0	41.0	1.0	-46.4	-13.0	-33.4	
5335.50	-1.0	H	3.0	40.1	1.0	-40.1	-13.0	-27.1	
7114.00	-8.8	H	3.0	40.0	1.0	-47.8	-13.0	-34.8	
8892.50	-8.2	H	3.0	39.6	1.0	-46.8	-13.0	-33.8	
10671.00	-4.7	H	3.0	40.0	1.0	-43.7	-13.0	-30.7	

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LTE

Band 66

1.4MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 66 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7MHz									
3421.40	1.0	V	3.0	41.0	1.0	-39.0	-13.0	-26.0	
5132.10	-0.8	V	3.0	40.1	1.0	-40.0	-13.0	-27.0	
6842.80	-0.8	V	3.0	40.0	1.0	-39.8	-13.0	-26.8	
8553.50	-8.2	V	3.0	39.8	1.0	-47.0	-13.0	-34.0	
10264.20	-3.9	V	3.0	40.1	1.0	-43.0	-13.0	-30.0	
3421.40	0.9	H	3.0	41.0	1.0	-39.2	-13.0	-26.2	
5132.10	-4.7	H	3.0	40.1	1.0	-43.8	-13.0	-30.8	
6842.80	-2.6	H	3.0	40.0	1.0	-41.7	-13.0	-28.7	
8553.50	-8.4	H	3.0	39.8	1.0	-47.2	-13.0	-34.2	
10264.20	-5.8	H	3.0	40.1	1.0	-44.9	-13.0	-31.9	
Mid Ch, 1745MHz									
3490.00	-6.0	V	3.0	41.0	1.0	-46.0	-13.0	-33.0	
5235.00	2.2	V	3.0	40.1	1.0	-36.9	-13.0	-23.9	
6980.00	-2.4	V	3.0	40.0	1.0	-41.5	-13.0	-28.5	
8725.00	-7.4	V	3.0	39.7	1.0	-46.1	-13.0	-33.1	
10470.00	-3.4	V	3.0	40.1	1.0	-42.5	-13.0	-29.5	
3490.00	-3.6	H	3.0	41.0	1.0	-43.6	-13.0	-30.6	
5235.00	-1.5	H	3.0	40.1	1.0	-40.6	-13.0	-27.6	
6980.00	-6.7	H	3.0	40.0	1.0	-45.7	-13.0	-32.7	
8725.00	-7.4	H	3.0	39.7	1.0	-46.1	-13.0	-33.1	
10470.00	-4.9	H	3.0	40.1	1.0	-44.0	-13.0	-31.0	
High Ch, 1779.3MHz									
3558.60	0.0	V	3.0	41.0	1.0	-40.0	-13.0	-27.0	
5337.90	0.5	V	3.0	40.1	1.0	-38.6	-13.0	-25.6	
7117.20	-7.6	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
8896.50	-7.2	V	3.0	39.6	1.0	-45.8	-13.0	-32.8	
10675.80	-2.5	V	3.0	40.0	1.0	-41.5	-13.0	-28.5	
3558.60	-5.1	H	3.0	41.0	1.0	-45.0	-13.0	-32.0	
5337.90	-2.0	H	3.0	40.1	1.0	-41.1	-13.0	-28.1	
7117.20	-8.6	H	3.0	40.0	1.0	-47.6	-13.0	-34.6	
8896.50	-8.2	H	3.0	39.6	1.0	-46.8	-13.0	-33.8	
10675.80	-4.2	H	3.0	40.0	1.0	-43.2	-13.0	-30.2	

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LTE

Band 66

1.4MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-05
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 66 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7MHz									
3421.40	-0.2	V	3.0	41.0	1.0	-40.2	-13.0	-27.2	
5132.10	-1.5	V	3.0	40.1	1.0	-40.6	-13.0	-27.6	
6842.80	-0.7	V	3.0	40.0	1.0	-39.7	-13.0	-26.7	
8553.50	-7.6	V	3.0	39.8	1.0	-46.4	-13.0	-33.4	
10264.20	-3.6	V	3.0	40.1	1.0	-42.8	-13.0	-29.8	
3421.40	0.7	H	3.0	41.0	1.0	-39.3	-13.0	-26.3	
5132.10	-4.7	H	3.0	40.1	1.0	-43.8	-13.0	-30.8	
6842.80	-2.6	H	3.0	40.0	1.0	-41.6	-13.0	-28.6	
8553.50	-8.3	H	3.0	39.8	1.0	-47.0	-13.0	-34.0	
10264.20	-5.2	H	3.0	40.1	1.0	-44.3	-13.0	-31.3	
Mid Ch, 1745MHz									
3490.00	-8.3	V	3.0	41.0	1.0	-48.3	-13.0	-35.3	
5235.00	2.1	V	3.0	40.1	1.0	-37.0	-13.0	-24.0	
6980.00	-2.3	V	3.0	40.0	1.0	-41.3	-13.0	-28.3	
8725.00	-7.4	V	3.0	39.7	1.0	-46.0	-13.0	-33.0	
10470.00	-4.3	V	3.0	40.1	1.0	-43.3	-13.0	-30.3	
3490.00	-3.1	H	3.0	41.0	1.0	-43.1	-13.0	-30.1	
5235.00	-1.1	H	3.0	40.1	1.0	-40.2	-13.0	-27.2	
6980.00	-6.5	H	3.0	40.0	1.0	-45.6	-13.0	-32.6	
8725.00	-7.6	H	3.0	39.7	1.0	-46.3	-13.0	-33.3	
10470.00	-6.2	H	3.0	40.1	1.0	-45.3	-13.0	-32.3	
High Ch, 1779.3MHz									
3558.60	-9.5	V	3.0	41.0	1.0	-49.4	-13.0	-36.4	
5337.90	1.1	V	3.0	40.1	1.0	-38.0	-13.0	-25.0	
7117.20	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1	
8896.50	-7.6	V	3.0	39.6	1.0	-46.2	-13.0	-33.2	
10675.80	-2.4	V	3.0	40.0	1.0	-41.4	-13.0	-28.4	
3558.60	-6.1	H	3.0	41.0	1.0	-46.0	-13.0	-33.0	
5337.90	-2.1	H	3.0	40.1	1.0	-41.2	-13.0	-28.2	
7117.20	-9.6	H	3.0	40.0	1.0	-48.7	-13.0	-35.7	
8896.50	-8.1	H	3.0	39.6	1.0	-46.7	-13.0	-33.7	
10675.80	-4.6	H	3.0	40.0	1.0	-43.7	-13.0	-30.7	

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LTE Band 2

LTE Band 2 20MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860MHz									
3720.00	-4.2	V	3.0	40.9	1.0	-44.1	-13.0	-31.1	
5580.00	-4.4	V	3.0	40.0	1.0	-43.5	-13.0	-30.5	
7440.00	-9.3	V	3.0	40.0	1.0	-48.3	-13.0	-35.3	
3720.00	2.7	H	3.0	40.9	1.0	-37.2	-13.0	-24.2	
5580.00	-4.8	H	3.0	40.0	1.0	-43.9	-13.0	-30.9	
7440.00	-9.6	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
Mid Ch, 1880MHz									
3760.00	-2.5	V	3.0	40.8	1.0	-42.3	-13.0	-29.3	
5640.00	-6.4	V	3.0	40.0	1.0	-45.5	-13.0	-32.5	
7520.00	-8.4	V	3.0	40.0	1.0	-47.4	-13.0	-34.4	
3760.00	4.4	H	3.0	40.8	1.0	-35.5	-13.0	-22.5	
5640.00	-6.4	H	3.0	40.0	1.0	-45.4	-13.0	-32.4	
7520.00	-8.6	H	3.0	40.0	1.0	-47.6	-13.0	-34.6	
High Ch, 1900MHz									
3800.00	-5.5	V	3.0	40.8	1.0	-45.3	-13.0	-32.3	
5700.00	-5.5	V	3.0	40.0	1.0	-44.5	-13.0	-31.5	
7600.00	-8.4	V	3.0	40.0	1.0	-47.4	-13.0	-34.4	
3800.00	0.1	H	3.0	40.8	1.0	-39.7	-13.0	-26.7	
5700.00	-5.9	H	3.0	40.0	1.0	-44.9	-13.0	-31.9	
7600.00	-9.9	H	3.0	40.0	1.0	-49.0	-13.0	-36.0	

LTE Band 2 20MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860MHz									
3720.00	-4.3	V	3.0	40.9	1.0	-44.1	-13.0	-31.1	
5580.00	-4.5	V	3.0	40.0	1.0	-43.5	-13.0	-30.5	
7440.00	-9.2	V	3.0	40.0	1.0	-48.2	-13.0	-35.2	
3720.00	3.5	H	3.0	40.9	1.0	-36.3	-13.0	-23.3	
5580.00	-4.8	H	3.0	40.0	1.0	-43.9	-13.0	-30.9	
7440.00	-9.7	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
Mid Ch, 1880MHz									
3760.00	-2.4	V	3.0	40.8	1.0	-42.2	-13.0	-29.2	
5640.00	-6.2	V	3.0	40.0	1.0	-45.3	-13.0	-32.3	
7520.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5	
3760.00	4.2	H	3.0	40.8	1.0	-35.6	-13.0	-22.6	
5640.00	-6.8	H	3.0	40.0	1.0	-45.8	-13.0	-32.8	
7520.00	-9.5	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
High Ch, 1900MHz									
3800.00	-5.0	V	3.0	40.8	1.0	-44.8	-13.0	-31.8	
5700.00	-5.5	V	3.0	40.0	1.0	-44.5	-13.0	-31.5	
7600.00	-8.4	V	3.0	40.0	1.0	-47.4	-13.0	-34.4	
3800.00	0.8	H	3.0	40.8	1.0	-39.0	-13.0	-26.0	
5700.00	-5.8	H	3.0	40.0	1.0	-44.8	-13.0	-31.8	
7600.00	-10.0	H	3.0	40.0	1.0	-49.1	-13.0	-36.1	

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LTE Band 2 15MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5MHz									
3715.00	-4.7	V	3.0	40.9	1.0	-44.6	-13.0	-31.6	
5572.50	-4.6	V	3.0	40.0	1.0	-43.7	-13.0	-30.7	
7430.00	-9.0	V	3.0	40.0	1.0	-48.0	-13.0	-35.0	
3715.00	4.2	H	3.0	40.9	1.0	-35.7	-13.0	-22.7	
5572.50	-5.2	H	3.0	40.0	1.0	-44.2	-13.0	-31.2	
7430.00	-9.7	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
Mid Ch, 1880MHz									
3760.00	-2.3	V	3.0	40.8	1.0	-42.1	-13.0	-29.1	
5640.00	-6.6	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
7520.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5	
3760.00	4.4	H	3.0	40.8	1.0	-35.4	-13.0	-22.4	
5640.00	-7.7	H	3.0	40.0	1.0	-46.7	-13.0	-33.7	
7520.00	-9.5	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
High Ch, 1902.5MHz									
3805.00	-3.8	V	3.0	40.8	1.0	-43.6	-13.0	-30.6	
5707.50	-6.5	V	3.0	40.0	1.0	-45.5	-13.0	-32.5	
7610.00	-8.2	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
3805.00	1.7	H	3.0	40.8	1.0	-38.1	-13.0	-25.1	
5707.50	-7.6	H	3.0	40.0	1.0	-46.7	-13.0	-33.7	
7610.00	-10.0	H	3.0	40.0	1.0	-49.0	-13.0	-36.0	

LTE Band 2 15MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5MHz									
3715.00	-4.8	V	3.0	40.9	1.0	-44.6	-13.0	-31.6	
5572.50	-4.9	V	3.0	40.0	1.0	-43.9	-13.0	-30.9	
7430.00	-9.0	V	3.0	40.0	1.0	-48.1	-13.0	-35.1	
3715.00	4.6	H	3.0	40.9	1.0	-35.2	-13.0	-22.2	
5572.50	-5.3	H	3.0	40.0	1.0	-44.4	-13.0	-31.4	
7430.00	-9.3	H	3.0	40.0	1.0	-48.4	-13.0	-35.4	
Mid Ch, 1880MHz									
3760.00	-2.5	V	3.0	40.8	1.0	-42.3	-13.0	-29.3	
5640.00	-7.3	V	3.0	40.0	1.0	-46.4	-13.0	-33.4	
7520.00	-8.6	V	3.0	40.0	1.0	-47.7	-13.0	-34.7	
3760.00	4.1	H	3.0	40.8	1.0	-35.8	-13.0	-22.8	
5640.00	-7.5	H	3.0	40.0	1.0	-46.5	-13.0	-33.5	
7520.00	-9.2	H	3.0	40.0	1.0	-48.3	-13.0	-35.3	
High Ch, 1902.5MHz									
3805.00	-3.7	V	3.0	40.8	1.0	-43.5	-13.0	-30.5	
5707.50	-6.6	V	3.0	40.0	1.0	-45.6	-13.0	-32.6	
7610.00	-8.7	V	3.0	40.0	1.0	-47.7	-13.0	-34.7	
3805.00	1.4	H	3.0	40.8	1.0	-38.4	-13.0	-25.4	
5707.50	-8.1	H	3.0	40.0	1.0	-47.1	-13.0	-34.1	
7610.00	-10.0	H	3.0	40.0	1.0	-49.0	-13.0	-36.0	

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LTE Band 2 10MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855MHz									
3710.00	-4.3	V	3.0	40.9	1.0	-44.2	-13.0	-31.2	
5565.00	-4.9	V	3.0	40.0	1.0	-43.9	-13.0	-30.9	
7420.00	-7.5	V	3.0	40.0	1.0	-46.5	-13.0	-33.5	
3710.00	6.1	H	3.0	40.9	1.0	-33.8	-13.0	-20.8	
5565.00	-4.7	H	3.0	40.0	1.0	-43.8	-13.0	-30.8	
7420.00	-9.5	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	
Mid Ch, 1880MHz									
3760.00	-1.9	V	3.0	40.8	1.0	-41.8	-13.0	-28.8	
5640.00	-6.8	V	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7520.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
3760.00	4.7	H	3.0	40.8	1.0	-35.1	-13.0	-22.1	
5640.00	-6.9	H	3.0	40.0	1.0	-46.0	-13.0	-33.0	
7520.00	-9.9	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	
High Ch, 1905MHz									
3810.00	-3.1	V	3.0	40.8	1.0	-42.9	-13.0	-29.9	
5715.00	-6.7	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
7620.00	-7.9	V	3.0	40.0	1.0	-47.0	-13.0	-34.0	
3810.00	2.2	H	3.0	40.8	1.0	-37.6	-13.0	-24.6	
5715.00	-9.6	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
7620.00	-9.8	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	

LTE Band 2 10MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855MHz									
3710.00	-3.9	V	3.0	40.9	1.0	-43.7	-13.0	-30.7	
5565.00	-4.7	V	3.0	40.0	1.0	-43.7	-13.0	-30.7	
7420.00	-8.1	V	3.0	40.0	1.0	-47.1	-13.0	-34.1	
3710.00	5.6	H	3.0	40.9	1.0	-34.2	-13.0	-21.2	
5565.00	-5.1	H	3.0	40.0	1.0	-44.2	-13.0	-31.2	
7420.00	-9.9	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	
Mid Ch, 1880MHz									
3760.00	-2.6	V	3.0	40.8	1.0	-42.4	-13.0	-29.4	
5640.00	-6.7	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
7520.00	-8.6	V	3.0	40.0	1.0	-47.6	-13.0	-34.6	
3760.00	4.0	H	3.0	40.8	1.0	-35.9	-13.0	-22.9	
5640.00	-7.3	H	3.0	40.0	1.0	-46.3	-13.0	-33.3	
7520.00	-10.0	H	3.0	40.0	1.0	-49.1	-13.0	-36.1	
High Ch, 1905MHz									
3810.00	-2.2	V	3.0	40.8	1.0	-42.0	-13.0	-29.0	
5715.00	-6.5	V	3.0	40.0	1.0	-45.5	-13.0	-32.5	
7620.00	-7.3	V	3.0	40.0	1.0	-46.3	-13.0	-33.3	
3810.00	2.7	H	3.0	40.8	1.0	-37.1	-13.0	-24.1	
5715.00	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2	
7620.00	-10.0	H	3.0	40.0	1.0	-49.1	-13.0	-36.1	

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LTE Band 2 5MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5MHz									
3705.00	-3.6	V	3.0	40.9	1.0	-43.4	-13.0	-30.4	
5557.50	-5.4	V	3.0	40.1	1.0	-44.5	-13.0	-31.5	
7410.00	-6.8	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
3705.00	6.4	H	3.0	40.9	1.0	-33.5	-13.0	-20.5	
5557.50	-5.2	H	3.0	40.1	1.0	-44.3	-13.0	-31.3	
7410.00	-9.6	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
Mid Ch, 1880MHz									
3760.00	-2.0	V	3.0	40.8	1.0	-41.9	-13.0	-28.9	
5640.00	-6.6	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
7520.00	-7.9	V	3.0	40.0	1.0	-46.9	-13.0	-33.9	
3760.00	4.6	H	3.0	40.8	1.0	-35.2	-13.0	-22.2	
5640.00	-6.9	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7520.00	-9.9	H	3.0	40.0	1.0	-49.0	-13.0	-36.0	
High Ch, 1907.5MHz									
3815.00	-3.6	V	3.0	40.8	1.0	-43.4	-13.0	-30.4	
5722.50	-8.3	V	3.0	40.0	1.0	-47.4	-13.0	-34.4	
7630.00	-7.8	V	3.0	40.0	1.0	-46.9	-13.0	-33.9	
3815.00	1.6	H	3.0	40.8	1.0	-38.2	-13.0	-25.2	
5722.50	-9.5	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	
7630.00	-8.9	H	3.0	40.0	1.0	-47.9	-13.0	-34.9	

LTE Band 2 5MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.5MHz									
3705.00	-3.4	V	3.0	40.9	1.0	-43.3	-13.0	-30.3	
5557.50	-5.4	V	3.0	40.1	1.0	-44.5	-13.0	-31.5	
7410.00	-7.5	V	3.0	40.0	1.0	-46.5	-13.0	-33.5	
3705.00	6.5	H	3.0	40.9	1.0	-33.3	-13.0	-20.3	
5557.50	-6.1	H	3.0	40.1	1.0	-45.1	-13.0	-32.1	
7410.00	-9.7	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
Mid Ch, 1880MHz									
3760.00	-2.2	V	3.0	40.8	1.0	-42.0	-13.0	-29.0	
5640.00	-6.8	V	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7520.00	-8.2	V	3.0	40.0	1.0	-47.2	-13.0	-34.2	
3760.00	4.5	H	3.0	40.8	1.0	-35.3	-13.0	-22.3	
5640.00	-7.5	H	3.0	40.0	1.0	-46.6	-13.0	-33.6	
7520.00	-9.5	H	3.0	40.0	1.0	-48.5	-13.0	-35.5	
High Ch, 1907.5MHz									
3815.00	-2.9	V	3.0	40.8	1.0	-42.7	-13.0	-29.7	
5722.50	-7.8	V	3.0	40.0	1.0	-46.8	-13.0	-33.8	
7630.00	-7.3	V	3.0	40.0	1.0	-46.3	-13.0	-33.3	
3815.00	1.7	H	3.0	40.8	1.0	-38.1	-13.0	-25.1	
5722.50	-10.7	H	3.0	40.0	1.0	-49.7	-13.0	-36.7	
7630.00	-9.1	H	3.0	40.0	1.0	-48.2	-13.0	-35.2	

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LTE Band 2 3MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5MHz									
3703.00	-2.8	V	3.0	40.9	1.0	-42.6	-13.0	-29.6	
5554.50	-5.6	V	3.0	40.1	1.0	-44.6	-13.0	-31.6	
7406.00	-7.2	V	3.0	40.0	1.0	-46.2	-13.0	-33.2	
3703.00	6.6	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
5554.50	-5.6	H	3.0	40.1	1.0	-44.6	-13.0	-31.6	
7406.00	-9.7	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
Mid Ch, 1880MHz									
3760.00	-2.1	V	3.0	40.8	1.0	-42.0	-13.0	-29.0	
5640.00	-7.0	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
7520.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
3760.00	4.5	H	3.0	40.8	1.0	-35.4	-13.0	-22.4	
5640.00	-7.9	H	3.0	40.0	1.0	-46.9	-13.0	-33.9	
7520.00	-10.2	H	3.0	40.0	1.0	-49.2	-13.0	-36.2	
High Ch, 1908.5MHz									
3817.00	-4.1	V	3.0	40.8	1.0	-43.9	-13.0	-30.9	
5725.50	-8.2	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
7634.00	-6.7	V	3.0	40.0	1.0	-45.7	-13.0	-32.7	
3817.00	1.6	H	3.0	40.8	1.0	-38.2	-13.0	-25.2	
5725.50	-8.9	H	3.0	40.0	1.0	-47.9	-13.0	-34.9	
7634.00	-9.9	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	

LTE Band 2 3MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5MHz									
3703.00	-2.8	V	3.0	40.9	1.0	-42.7	-13.0	-29.7	
5554.50	-5.9	V	3.0	40.1	1.0	-44.9	-13.0	-31.9	
7406.00	-7.4	V	3.0	40.0	1.0	-46.5	-13.0	-33.5	
3703.00	6.7	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
5554.50	-5.7	H	3.0	40.1	1.0	-44.8	-13.0	-31.8	
7406.00	-9.5	H	3.0	40.0	1.0	-48.6	-13.0	-35.6	
Mid Ch, 1880MHz									
3760.00	-2.5	V	3.0	40.8	1.0	-42.3	-13.0	-29.3	
5640.00	-6.9	V	3.0	40.0	1.0	-46.0	-13.0	-33.0	
7520.00	-8.3	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
3760.00	4.6	H	3.0	40.8	1.0	-35.2	-13.0	-22.2	
5640.00	-8.4	H	3.0	40.0	1.0	-47.4	-13.0	-34.4	
7520.00	-9.8	H	3.0	40.0	1.0	-48.9	-13.0	-35.9	
High Ch, 1908.5MHz									
3817.00	-3.6	V	3.0	40.8	1.0	-43.4	-13.0	-30.4	
5725.50	-8.3	V	3.0	40.0	1.0	-47.3	-13.0	-34.3	
7634.00	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1	
3817.00	1.4	H	3.0	40.8	1.0	-38.4	-13.0	-25.4	
5725.50	-9.2	H	3.0	40.0	1.0	-48.3	-13.0	-35.3	
7634.00	-9.8	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	

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LTE Band 2 1.4MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7MHz									
3701.40	-3.1	V	3.0	40.9	1.0	-43.0	-13.0	-30.0	
5552.10	-4.8	V	3.0	40.1	1.0	-43.9	-13.0	-30.9	
7402.80	-6.4	V	3.0	40.0	1.0	-45.4	-13.0	-32.4	
3701.40	6.7	H	3.0	40.9	1.0	-33.2	-13.0	-20.2	
5552.10	-5.1	H	3.0	40.1	1.0	-44.1	-13.0	-31.1	
7402.80	-9.2	H	3.0	40.0	1.0	-48.2	-13.0	-35.2	
Mid Ch, 1880MHz									
3760.00	-1.8	V	3.0	40.8	1.0	-41.6	-13.0	-28.6	
5640.00	-6.2	V	3.0	40.0	1.0	-45.2	-13.0	-32.2	
7520.00	-8.5	V	3.0	40.0	1.0	-47.5	-13.0	-34.5	
3760.00	4.7	H	3.0	40.8	1.0	-35.1	-13.0	-22.1	
5640.00	-6.2	H	3.0	40.0	1.0	-45.3	-13.0	-32.3	
7520.00	-9.0	H	3.0	40.0	1.0	-48.1	-13.0	-35.1	
High Ch, 1909.3MHz									
3818.60	-4.2	V	3.0	40.8	1.0	-43.9	-13.0	-30.9	
5727.90	-6.8	V	3.0	40.0	1.0	-45.8	-13.0	-32.8	
7637.20	-6.9	V	3.0	40.0	1.0	-45.9	-13.0	-32.9	
3818.60	1.3	H	3.0	40.8	1.0	-38.5	-13.0	-25.5	
5727.90	-6.0	H	3.0	40.0	1.0	-45.0	-13.0	-32.0	
7637.20	-9.7	H	3.0	40.0	1.0	-48.7	-13.0	-35.7	

LTE Band 2 1.4MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45574
Configuration: EUT / Adapter / Earphone, X-Position
Location: Chamber 3
Mode: LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7MHz									
3701.40	-2.1	V	3.0	40.9	1.0	-42.0	-13.0	-29.0	
5552.10	-4.7	V	3.0	40.1	1.0	-43.7	-13.0	-30.7	
7402.80	-6.9	V	3.0	40.0	1.0	-45.9	-13.0	-32.9	
3701.40	7.8	H	3.0	40.9	1.0	-32.1	-13.0	-19.1	
5552.10	-5.2	H	3.0	40.1	1.0	-44.3	-13.0	-31.3	
7402.80	-9.8	H	3.0	40.0	1.0	-48.8	-13.0	-35.8	
Mid Ch, 1880MHz									
3760.00	-2.1	V	3.0	40.8	1.0	-41.9	-13.0	-28.9	
5640.00	-5.8	V	3.0	40.0	1.0	-44.9	-13.0	-31.9	
7520.00	-7.7	V	3.0	40.0	1.0	-46.7	-13.0	-33.7	
3760.00	4.5	H	3.0	40.8	1.0	-35.3	-13.0	-22.3	
5640.00	-6.8	H	3.0	40.0	1.0	-45.9	-13.0	-32.9	
7520.00	-10.1	H	3.0	40.0	1.0	-49.2	-13.0	-36.2	
High Ch, 1909.3MHz									
3818.60	-4.7	V	3.0	40.8	1.0	-44.5	-13.0	-31.5	
5727.90	-7.4	V	3.0	40.0	1.0	-46.4	-13.0	-33.4	
7637.20	-7.1	V	3.0	40.0	1.0	-46.1	-13.0	-33.1	
3818.60	1.3	H	3.0	40.8	1.0	-38.5	-13.0	-25.5	
5727.90	-8.0	H	3.0	40.0	1.0	-47.0	-13.0	-34.0	
7637.20	-9.3	H	3.0	40.0	1.0	-48.4	-13.0	-35.4	

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LTE Band 12

LTE Band 12 10MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704MHz									
1408.00	-11.4	V	3.0	41.7	1.0	-52.0	-13.0	-39.0	
2112.00	-16.8	V	3.0	42.0	1.0	-57.8	-13.0	-44.8	
2816.00	-17.0	V	3.0	41.5	1.0	-57.5	-13.0	-44.5	
1408.00	-12.5	H	3.0	41.7	1.0	-53.1	-13.0	-40.1	
2112.00	-15.7	H	3.0	42.0	1.0	-56.6	-13.0	-43.6	
2816.00	-17.3	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
Mid Ch, 707.5MHz									
1415.00	-13.7	V	3.0	41.7	1.0	-54.4	-13.0	-41.4	
2122.50	-17.3	V	3.0	41.9	1.0	-58.2	-13.0	-45.2	
2830.00	-16.5	V	3.0	41.4	1.0	-57.0	-13.0	-44.0	
1415.00	-15.0	H	3.0	41.7	1.0	-55.6	-13.0	-42.6	
2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2	
2830.00	-17.0	H	3.0	41.4	1.0	-57.4	-13.0	-44.4	
High Ch, 711MHz									
1422.00	-9.9	V	3.0	41.7	1.0	-50.5	-13.0	-37.5	
2133.00	-15.2	V	3.0	41.9	1.0	-56.1	-13.0	-43.1	
2844.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
1422.00	-11.8	H	3.0	41.7	1.0	-52.5	-13.0	-39.5	
2133.00	-15.5	H	3.0	41.9	1.0	-56.4	-13.0	-43.4	
2844.00	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6	

LTE Band 12 10MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704MHz									
1408.00	-12.0	V	3.0	41.7	1.0	-52.7	-13.0	-39.7	
2112.00	-16.9	V	3.0	42.0	1.0	-57.9	-13.0	-44.9	
2816.00	-17.1	V	3.0	41.5	1.0	-57.6	-13.0	-44.6	
1408.00	-12.9	H	3.0	41.7	1.0	-53.6	-13.0	-40.6	
2112.00	-16.7	H	3.0	42.0	1.0	-57.7	-13.0	-44.7	
2816.00	-17.2	H	3.0	41.5	1.0	-57.6	-13.0	-44.6	
Mid Ch, 707.5MHz									
1415.00	-14.8	V	3.0	41.7	1.0	-55.4	-13.0	-42.4	
2122.50	-17.5	V	3.0	41.9	1.0	-58.5	-13.0	-45.5	
2830.00	-17.4	V	3.0	41.4	1.0	-57.8	-13.0	-44.8	
1415.00	-16.0	H	3.0	41.7	1.0	-56.7	-13.0	-43.7	
2122.50	-17.7	H	3.0	41.9	1.0	-58.6	-13.0	-45.6	
2830.00	-17.0	H	3.0	41.4	1.0	-57.4	-13.0	-44.4	
High Ch, 711MHz									
1422.00	-10.7	V	3.0	41.7	1.0	-51.4	-13.0	-38.4	
2133.00	-15.4	V	3.0	41.9	1.0	-56.3	-13.0	-43.3	
2844.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1	
1422.00	-12.5	H	3.0	41.7	1.0	-53.2	-13.0	-40.2	
2133.00	-15.3	H	3.0	41.9	1.0	-56.3	-13.0	-43.3	
2844.00	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8	

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LTE Band 12 5MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 701.5MHz									
1403.00	-10.5	V	3.0	41.7	1.0	-51.2	-13.0	-38.2	
2104.50	-14.3	V	3.0	42.0	1.0	-55.3	-13.0	-42.3	
2806.00	-16.7	V	3.0	41.5	1.0	-57.2	-13.0	-44.2	
1403.00	-21.2	H	3.0	41.7	1.0	-61.9	-13.0	-48.9	
2104.50	-13.9	H	3.0	42.0	1.0	-54.8	-13.0	-41.8	
2806.00	-16.9	H	3.0	41.5	1.0	-57.4	-13.0	-44.4	
Mid Ch, 707.5MHz									
1415.00	-13.7	V	3.0	41.7	1.0	-54.3	-13.0	-41.3	
2122.50	-17.2	V	3.0	41.9	1.0	-58.2	-13.0	-45.2	
2830.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
1415.00	-14.5	H	3.0	41.7	1.0	-55.2	-13.0	-42.2	
2122.50	-17.6	H	3.0	41.9	1.0	-58.5	-13.0	-45.5	
2830.00	-16.7	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
High Ch, 713.5MHz									
1427.00	-10.5	V	3.0	41.7	1.0	-51.1	-13.0	-38.1	
2140.50	-16.0	V	3.0	41.9	1.0	-56.9	-13.0	-43.9	
2854.00	-17.0	V	3.0	41.4	1.0	-57.4	-13.0	-44.4	
1427.00	-11.9	H	3.0	41.7	1.0	-52.6	-13.0	-39.6	
2140.50	-15.9	H	3.0	41.9	1.0	-56.8	-13.0	-43.8	
2854.00	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6	

LTE Band 12 5MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 701.5MHz									
1403.00	-11.4	V	3.0	41.7	1.0	-52.1	-13.0	-39.1	
2104.50	-14.4	V	3.0	42.0	1.0	-55.3	-13.0	-42.3	
2806.00	-16.0	V	3.0	41.5	1.0	-56.5	-13.0	-43.5	
1403.00	-12.1	H	3.0	41.7	1.0	-52.7	-13.0	-39.7	
2104.50	-14.8	H	3.0	42.0	1.0	-55.7	-13.0	-42.7	
2806.00	-16.5	H	3.0	41.5	1.0	-56.9	-13.0	-43.9	
Mid Ch, 707.5MHz									
1415.00	-13.3	V	3.0	41.7	1.0	-54.0	-13.0	-41.0	
2122.50	-16.8	V	3.0	41.9	1.0	-57.8	-13.0	-44.8	
2830.00	-16.6	V	3.0	41.4	1.0	-57.1	-13.0	-44.1	
1415.00	-15.3	H	3.0	41.7	1.0	-55.9	-13.0	-42.9	
2122.50	-17.8	H	3.0	41.9	1.0	-58.8	-13.0	-45.8	
2830.00	-16.9	H	3.0	41.4	1.0	-57.4	-13.0	-44.4	
High Ch, 713.5MHz									
1427.00	-10.8	V	3.0	41.7	1.0	-51.5	-13.0	-38.5	
2140.50	-16.3	V	3.0	41.9	1.0	-57.2	-13.0	-44.2	
2854.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
1427.00	-11.7	H	3.0	41.7	1.0	-52.4	-13.0	-39.4	
2140.50	-16.2	H	3.0	41.9	1.0	-57.1	-13.0	-44.1	
2854.00	-16.7	H	3.0	41.4	1.0	-57.2	-13.0	-44.2	

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LTE Band 12 3MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 700.5MHz									
1401.00	-9.1	V	3.0	41.7	1.0	-49.7	-13.0	-36.7	
2101.50	-14.1	V	3.0	42.0	1.0	-55.1	-13.0	-42.1	
2802.00	-16.3	V	3.0	41.5	1.0	-56.8	-13.0	-43.8	
1401.00	-10.4	H	3.0	41.7	1.0	-51.1	-13.0	-38.1	
2101.50	-14.6	H	3.0	42.0	1.0	-55.5	-13.0	-42.5	
2802.00	-17.3	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
Mid Ch, 707.5MHz									
1415.00	-13.5	V	3.0	41.7	1.0	-54.1	-13.0	-41.1	
2122.50	-17.3	V	3.0	41.9	1.0	-58.3	-13.0	-45.3	
2830.00	-16.3	V	3.0	41.4	1.0	-56.7	-13.0	-43.7	
1415.00	-15.0	H	3.0	41.7	1.0	-55.6	-13.0	-42.6	
2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2	
2830.00	-16.6	H	3.0	41.4	1.0	-57.1	-13.0	-44.1	
High Ch, 714.5MHz									
1429.00	-13.4	V	3.0	41.7	1.0	-54.1	-13.0	-41.1	
2143.50	-16.0	V	3.0	41.9	1.0	-56.9	-13.0	-43.9	
2858.00	-16.9	V	3.0	41.4	1.0	-57.3	-13.0	-44.3	
1429.00	-14.8	H	3.0	41.7	1.0	-55.4	-13.0	-42.4	
2143.50	-16.7	H	3.0	41.9	1.0	-57.6	-13.0	-44.6	
2858.00	-17.1	H	3.0	41.4	1.0	-57.5	-13.0	-44.5	

LTE Band 12 3MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 700.5MHz									
1401.00	-8.4	V	3.0	41.7	1.0	-49.1	-13.0	-36.1	
2101.50	-13.6	V	3.0	42.0	1.0	-54.6	-13.0	-41.6	
2802.00	-16.6	V	3.0	41.5	1.0	-57.0	-13.0	-44.0	
1401.00	-10.2	H	3.0	41.7	1.0	-50.9	-13.0	-37.9	
2101.50	-14.3	H	3.0	42.0	1.0	-55.2	-13.0	-42.2	
2802.00	-16.8	H	3.0	41.5	1.0	-57.3	-13.0	-44.3	
Mid Ch, 707.5MHz									
1415.00	-13.6	V	3.0	41.7	1.0	-54.3	-13.0	-41.3	
2122.50	-17.0	V	3.0	41.9	1.0	-57.9	-13.0	-44.9	
2830.00	-16.9	V	3.0	41.4	1.0	-57.3	-13.0	-44.3	
1415.00	-15.5	H	3.0	41.7	1.0	-56.2	-13.0	-43.2	
2122.50	-17.6	H	3.0	41.9	1.0	-58.6	-13.0	-45.6	
2830.00	-16.9	H	3.0	41.4	1.0	-57.3	-13.0	-44.3	
High Ch, 714.5MHz									
1429.00	-16.7	V	3.0	41.7	1.0	-57.4	-13.0	-44.4	
2143.50	-15.6	V	3.0	41.9	1.0	-56.5	-13.0	-43.5	
2858.00	-17.0	V	3.0	41.4	1.0	-57.4	-13.0	-44.4	
1429.00	-16.8	H	3.0	41.7	1.0	-57.5	-13.0	-44.5	
2143.50	-17.1	H	3.0	41.9	1.0	-58.0	-13.0	-45.0	
2858.00	-17.2	H	3.0	41.4	1.0	-57.7	-13.0	-44.7	

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LTE Band 12 1.4MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 699.7MHz									
1399.40	-14.4	V	3.0	41.7	1.0	-55.1	-13.0	-42.1	
2099.10	-13.4	V	3.0	42.0	1.0	-54.4	-13.0	-41.4	
2798.80	-16.4	V	3.0	41.5	1.0	-56.9	-13.0	-43.9	
1399.40	-16.2	H	3.0	41.7	1.0	-56.9	-13.0	-43.9	
2099.10	-14.1	H	3.0	42.0	1.0	-55.1	-13.0	-42.1	
2798.80	-16.7	H	3.0	41.5	1.0	-57.2	-13.0	-44.2	
Mid Ch, 707.5MHz									
1415.00	-13.4	V	3.0	41.7	1.0	-54.0	-13.0	-41.0	
2122.50	-17.1	V	3.0	41.9	1.0	-58.0	-13.0	-45.0	
2830.00	-16.8	V	3.0	41.4	1.0	-57.2	-13.0	-44.2	
1415.00	-15.3	H	3.0	41.7	1.0	-56.0	-13.0	-43.0	
2122.50	-17.3	H	3.0	41.9	1.0	-58.2	-13.0	-45.2	
2830.00	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8	
High Ch, 715.3MHz									
1430.60	-15.5	V	3.0	41.7	1.0	-56.2	-13.0	-43.2	
2145.90	-16.5	V	3.0	41.9	1.0	-57.4	-13.0	-44.4	
2861.20	-16.5	V	3.0	41.4	1.0	-56.9	-13.0	-43.9	
1430.60	-17.3	H	3.0	41.7	1.0	-58.0	-13.0	-45.0	
2145.90	-16.8	H	3.0	41.9	1.0	-57.8	-13.0	-44.8	
2861.20	-17.2	H	3.0	41.4	1.0	-57.6	-13.0	-44.6	

LTE Band 12 1.4MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397760
Date: 2018-04-04
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 699.7MHz									
1399.40	-14.5	V	3.0	41.7	1.0	-55.1	-13.0	-42.1	
2099.10	-13.4	V	3.0	42.0	1.0	-54.4	-13.0	-41.4	
2798.80	-16.5	V	3.0	41.5	1.0	-57.0	-13.0	-44.0	
1399.40	-17.1	H	3.0	41.7	1.0	-57.8	-13.0	-44.8	
2099.10	-13.6	H	3.0	42.0	1.0	-54.6	-13.0	-41.6	
2798.80	-17.2	H	3.0	41.5	1.0	-57.7	-13.0	-44.7	
Mid Ch, 707.5MHz									
1415.00	-14.6	V	3.0	41.7	1.0	-55.3	-13.0	-42.3	
2122.50	-16.9	V	3.0	41.9	1.0	-57.8	-13.0	-44.8	
2830.00	-16.2	V	3.0	41.4	1.0	-56.7	-13.0	-43.7	
1415.00	-16.1	H	3.0	41.7	1.0	-56.8	-13.0	-43.8	
2122.50	-17.8	H	3.0	41.9	1.0	-58.8	-13.0	-45.8	
2830.00	-17.2	H	3.0	41.4	1.0	-57.7	-13.0	-44.7	
High Ch, 715.3MHz									
1430.60	-17.3	V	3.0	41.7	1.0	-58.0	-13.0	-45.0	
2145.90	-16.3	V	3.0	41.9	1.0	-57.2	-13.0	-44.2	
2861.20	-16.9	V	3.0	41.4	1.0	-57.3	-13.0	-44.3	
1430.60	-17.7	H	3.0	41.7	1.0	-58.4	-13.0	-45.4	
2145.90	-16.0	H	3.0	41.9	1.0	-56.9	-13.0	-43.9	
2861.20	-17.4	H	3.0	41.4	1.0	-57.8	-13.0	-44.8	

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LTE Band 13

LTE Band 13 10MHz QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 13 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 782MHz									
1564.00	0.0	V	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	V	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	V	3.0	41.2	1.0	-40.2	-13.0	-27.2	
1564.00	0.0	H	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	H	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	H	3.0	41.2	1.0	-40.2	-13.0	-27.2	
Mid Ch, 782MHz									
1564.00	-17.1	V	3.0	41.8	1.0	-57.8	-40.0	-17.8	
2346.00	-16.7	V	3.0	41.8	1.0	-57.4	-13.0	-44.4	
3128.00	-16.4	V	3.0	41.2	1.0	-56.6	-13.0	-43.6	
1564.00	-19.1	H	3.0	41.8	1.0	-59.8	-40.0	-19.8	
2346.00	-15.5	H	3.0	41.8	1.0	-56.3	-13.0	-43.3	
3128.00	-16.9	H	3.0	41.2	1.0	-57.1	-13.0	-44.1	
High Ch, 782MHz									
1564.00	0.0	V	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	V	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	V	3.0	41.2	1.0	-40.2	-13.0	-27.2	
1564.00	0.0	H	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	H	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	H	3.0	41.2	1.0	-40.2	-13.0	-27.2	

LTE Band 13 10MHz 16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 13 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 782MHz									
1564.00	0.0	V	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	V	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	V	3.0	41.2	1.0	-40.2	-13.0	-27.2	
1564.00	0.0	H	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	H	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	H	3.0	41.2	1.0	-40.2	-13.0	-27.2	
Mid Ch, 782MHz									
1564.00	-16.5	V	3.0	41.8	1.0	-57.3	-40.0	-17.3	
2346.00	-16.8	V	3.0	41.8	1.0	-57.6	-13.0	-44.6	
3128.00	-16.4	V	3.0	41.2	1.0	-56.7	-13.0	-43.7	
1564.00	-17.9	H	3.0	41.8	1.0	-58.7	-40.0	-18.7	
2346.00	-14.6	H	3.0	41.8	1.0	-55.4	-13.0	-42.4	
3128.00	-16.7	H	3.0	41.2	1.0	-57.0	-13.0	-44.0	
High Ch, 782MHz									
1564.00	0.0	V	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	V	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	V	3.0	41.2	1.0	-40.2	-13.0	-27.2	
1564.00	0.0	H	3.0	41.8	1.0	-40.8	-40.0	-0.8	
2346.00	0.0	H	3.0	41.8	1.0	-40.8	-13.0	-27.8	
3128.00	0.0	H	3.0	41.2	1.0	-40.2	-13.0	-27.2	

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LTE

Band 13

5MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_QPSK Band 13 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5MHz									
1559.00	-15.8	V	3.0	41.8	1.0	-56.5	-40.0	-16.5	
2338.50	-14.6	V	3.0	41.8	1.0	-55.4	-13.0	-42.4	
3118.00	-16.6	V	3.0	41.2	1.0	-56.8	-13.0	-43.8	
1559.00	-16.8	H	3.0	41.8	1.0	-57.6	-40.0	-17.6	
2338.50	-14.2	H	3.0	41.8	1.0	-54.9	-13.0	-41.9	
3118.00	-16.9	H	3.0	41.2	1.0	-57.2	-13.0	-44.2	
Mid Ch, 782MHz									
1564.00	-17.6	V	3.0	41.8	1.0	-58.4	-40.0	-18.4	
2346.00	-15.9	V	3.0	41.8	1.0	-56.6	-13.0	-43.6	
3128.00	-16.5	V	3.0	41.2	1.0	-56.7	-13.0	-43.7	
1564.00	-17.8	H	3.0	41.8	1.0	-58.6	-40.0	-18.6	
2346.00	-14.6	H	3.0	41.8	1.0	-55.4	-13.0	-42.4	
3128.00	-16.8	H	3.0	41.2	1.0	-57.0	-13.0	-44.0	
High Ch, 784.5MHz									
1569.00	-16.7	V	3.0	41.8	1.0	-57.5	-40.0	-17.5	
2353.50	-17.4	V	3.0	41.8	1.0	-58.2	-13.0	-45.2	
3138.00	-16.5	V	3.0	41.2	1.0	-56.7	-13.0	-43.7	
1569.00	-18.2	H	3.0	41.8	1.0	-59.0	-40.0	-19.0	
2353.50	-17.0	H	3.0	41.8	1.0	-57.7	-13.0	-44.7	
3138.00	-16.2	H	3.0	41.2	1.0	-56.4	-13.0	-43.4	

LTE

Band 13

5MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 45585
Configuration: EUT / Adapter / Earphone, Z-Position
Location: Chamber 3
Mode: LTE_16QAM Band 13 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5MHz									
1559.00	-15.4	V	3.0	41.8	1.0	-56.2	-40.0	-16.2	
2338.50	-15.3	V	3.0	41.8	1.0	-56.1	-13.0	-43.1	
3118.00	-16.6	V	3.0	41.2	1.0	-56.8	-13.0	-43.8	
1559.00	-16.5	H	3.0	41.8	1.0	-57.3	-40.0	-17.3	
2338.50	-15.7	H	3.0	41.8	1.0	-56.5	-13.0	-43.5	
3118.00	-16.8	H	3.0	41.2	1.0	-57.1	-13.0	-44.1	
Mid Ch, 782MHz									
1564.00	-17.7	V	3.0	41.8	1.0	-58.5	-40.0	-18.5	
2346.00	-15.8	V	3.0	41.8	1.0	-56.6	-13.0	-43.6	
3128.00	-16.6	V	3.0	41.2	1.0	-56.8	-13.0	-43.8	
1564.00	-19.2	H	3.0	41.8	1.0	-60.0	-40.0	-20.0	
2346.00	-16.0	H	3.0	41.8	1.0	-56.8	-13.0	-43.8	
3128.00	-17.2	H	3.0	41.2	1.0	-57.5	-13.0	-44.5	
High Ch, 784.5MHz									
1569.00	-17.3	V	3.0	41.8	1.0	-58.1	-40.0	-18.1	
2353.50	-16.1	V	3.0	41.8	1.0	-56.9	-13.0	-43.9	
3138.00	-16.4	V	3.0	41.2	1.0	-56.6	-13.0	-43.6	
1569.00	-18.4	H	3.0	41.8	1.0	-59.2	-40.0	-19.2	
2353.50	-17.5	H	3.0	41.8	1.0	-58.3	-13.0	-45.3	
3138.00	-16.8	H	3.0	41.2	1.0	-57.0	-13.0	-44.0	

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LTE Band 41

LTE

Band 41

20MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506MHz									
5012.00	-9.0	V	3.0	39.8	1.0	-47.7	-25.0	-22.7	
7518.00	1.4	V	3.0	39.4	1.0	-37.0	-25.0	-12.0	
10024.00	-5.8	V	3.0	38.6	1.0	-43.4	-25.0	-18.4	
12530.00	-5.0	V	3.0	39.0	1.0	-43.0	-25.0	-18.0	
5012.00	-7.0	H	3.0	39.8	1.0	-45.7	-25.0	-20.7	
7518.00	-4.0	H	3.0	39.4	1.0	-42.4	-25.0	-17.4	
10024.00	-6.7	H	3.0	38.6	1.0	-44.3	-25.0	-19.3	
12530.00	-5.8	H	3.0	39.0	1.0	-43.8	-25.0	-18.8	
Mid Ch, 2593MHz									
5186.00	-6.1	V	3.0	39.8	1.0	-44.9	-25.0	-19.9	
7779.00	-5.7	V	3.0	39.3	1.0	-44.0	-25.0	-19.0	
10372.00	-0.9	V	3.0	38.6	1.0	-38.5	-25.0	-13.5	
12965.00	-5.0	V	3.0	39.4	1.0	-43.4	-25.0	-18.4	
5186.00	-5.4	H	3.0	39.8	1.0	-44.3	-25.0	-19.3	
7779.00	-4.9	H	3.0	39.3	1.0	-43.2	-25.0	-18.2	
10372.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
12965.00	-4.1	H	3.0	39.4	1.0	-42.5	-25.0	-17.5	
High Ch, 2680MHz									
5360.00	-4.1	V	3.0	39.9	1.0	-43.0	-25.0	-18.0	
8040.00	-9.1	V	3.0	39.2	1.0	-47.3	-25.0	-22.3	
10720.00	-3.8	V	3.0	38.5	1.0	-41.3	-25.0	-16.3	
13400.00	-5.0	V	3.0	39.8	1.0	-43.8	-25.0	-18.8	
5360.00	-6.5	H	3.0	39.9	1.0	-45.4	-25.0	-20.4	
8040.00	-7.1	H	3.0	39.2	1.0	-45.2	-25.0	-20.2	
10720.00	-5.7	H	3.0	38.5	1.0	-43.3	-25.0	-18.3	
13400.00	-4.7	H	3.0	39.8	1.0	-43.5	-25.0	-18.5	

LTE

Band 41

20MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-07
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506MHz									
5012.00	-9.0	V	3.0	39.8	1.0	-47.8	-25.0	-22.8	
7518.00	1.3	V	3.0	39.4	1.0	-37.1	-25.0	-12.1	
10024.00	-7.0	V	3.0	38.6	1.0	-44.6	-25.0	-19.6	
12530.00	-5.6	V	3.0	39.0	1.0	-43.6	-25.0	-18.6	
5012.00	-7.5	H	3.0	39.8	1.0	-46.3	-25.0	-21.3	
7518.00	-4.0	H	3.0	39.4	1.0	-42.4	-25.0	-17.4	
10024.00	-7.5	H	3.0	38.6	1.0	-45.1	-25.0	-20.1	
12530.00	-5.4	H	3.0	39.0	1.0	-43.4	-25.0	-18.4	
Mid Ch, 2593MHz									
5186.00	-6.5	V	3.0	39.8	1.0	-45.3	-25.0	-20.3	
7779.00	-6.0	V	3.0	39.3	1.0	-44.3	-25.0	-19.3	
10372.00	-1.1	V	3.0	38.6	1.0	-38.7	-25.0	-13.7	
12965.00	-6.2	V	3.0	39.4	1.0	-44.6	-25.0	-19.6	
5186.00	-6.1	H	3.0	39.8	1.0	-45.0	-25.0	-20.0	
7779.00	-5.8	H	3.0	39.3	1.0	-44.1	-25.0	-19.1	
10372.00	-6.6	H	3.0	38.6	1.0	-44.1	-25.0	-19.1	
12965.00	-4.5	H	3.0	39.4	1.0	-42.9	-25.0	-17.9	
High Ch, 2680MHz									
5360.00	-4.3	V	3.0	39.9	1.0	-43.2	-25.0	-18.2	
8040.00	-9.7	V	3.0	39.2	1.0	-47.8	-25.0	-22.8	
10720.00	-4.0	V	3.0	38.5	1.0	-41.5	-25.0	-16.5	
13400.00	-5.3	V	3.0	39.8	1.0	-44.1	-25.0	-19.1	
5360.00	-6.9	H	3.0	39.9	1.0	-45.7	-25.0	-20.7	
8040.00	-7.9	H	3.0	39.2	1.0	-46.0	-25.0	-21.0	
10720.00	-6.0	H	3.0	38.5	1.0	-43.5	-25.0	-18.5	
13400.00	-4.6	H	3.0	39.8	1.0	-43.4	-25.0	-18.4	

UL Korea, Ltd. Suwon Laboratory FORM ID: FCC_22/24/27
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LTE

Band 41

15MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.5MHz									
5007.00	-9.8	V	3.0	39.8	1.0	-48.5	-25.0	-23.5	
7510.50	-9.1	V	3.0	39.4	1.0	-47.5	-25.0	-22.5	
10014.00	-1.5	V	3.0	38.6	1.0	-39.1	-25.0	-14.1	
12517.50	-6.2	V	3.0	39.0	1.0	-44.2	-25.0	-19.2	
5007.00	-10.0	H	3.0	39.8	1.0	-48.8	-25.0	-23.8	
7510.50	-8.5	H	3.0	39.4	1.0	-46.9	-25.0	-21.9	
10014.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
12517.50	-6.6	H	3.0	39.0	1.0	-44.6	-25.0	-19.6	
Mid Ch, 2593MHz									
5186.00	-7.1	V	3.0	39.8	1.0	-45.9	-25.0	-20.9	
7779.00	-8.2	V	3.0	39.3	1.0	-46.5	-25.0	-21.5	
10372.00	-3.4	V	3.0	38.6	1.0	-40.9	-25.0	-15.9	
12965.00	-3.2	V	3.0	39.4	1.0	-41.6	-25.0	-16.6	
5186.00	-8.8	H	3.0	39.8	1.0	-47.6	-25.0	-22.6	
7779.00	-7.0	H	3.0	39.3	1.0	-45.3	-25.0	-20.3	
10372.00	-6.8	H	3.0	38.6	1.0	-44.4	-25.0	-19.4	
12965.00	-4.7	H	3.0	39.4	1.0	-43.1	-25.0	-18.1	
High Ch, 2682.5MHz									
5365.00	-3.4	V	3.0	39.9	1.0	-42.3	-25.0	-17.3	
8047.50	-10.0	V	3.0	39.2	1.0	-48.2	-25.0	-23.2	
10730.00	-5.8	V	3.0	38.5	1.0	-43.4	-25.0	-18.4	
13412.50	-5.0	V	3.0	39.8	1.0	-43.9	-25.0	-18.9	
5365.00	-7.1	H	3.0	39.9	1.0	-46.0	-25.0	-21.0	
8047.50	-10.1	H	3.0	39.2	1.0	-48.2	-25.0	-23.2	
10730.00	-4.8	H	3.0	38.5	1.0	-42.3	-25.0	-17.3	
13412.50	-4.3	H	3.0	39.8	1.0	-43.1	-25.0	-18.1	

LTE

Band 41

15MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.5MHz									
5007.00	-10.7	V	3.0	39.8	1.0	-49.4	-25.0	-24.4	
7510.50	-10.0	V	3.0	39.4	1.0	-48.4	-25.0	-23.4	
10014.00	-2.5	V	3.0	38.6	1.0	-40.1	-25.0	-15.1	
12517.50	-6.6	V	3.0	39.0	1.0	-44.6	-25.0	-19.6	
5007.00	-10.7	H	3.0	39.8	1.0	-49.5	-25.0	-24.5	
7510.50	-9.5	H	3.0	39.4	1.0	-47.9	-25.0	-22.9	
10014.00	-6.9	H	3.0	38.6	1.0	-44.5	-25.0	-19.5	
12517.50	-6.4	H	3.0	39.0	1.0	-44.4	-25.0	-19.4	
Mid Ch, 2593MHz									
5186.00	-7.8	V	3.0	39.8	1.0	-46.7	-25.0	-21.7	
7779.00	-7.8	V	3.0	39.3	1.0	-46.1	-25.0	-21.1	
10372.00	-4.2	V	3.0	38.6	1.0	-41.8	-25.0	-16.8	
12965.00	-2.9	V	3.0	39.4	1.0	-41.3	-25.0	-16.3	
5186.00	-9.7	H	3.0	39.8	1.0	-48.5	-25.0	-23.5	
7779.00	-8.4	H	3.0	39.3	1.0	-46.7	-25.0	-21.7	
10372.00	-7.0	H	3.0	38.6	1.0	-44.6	-25.0	-19.6	
12965.00	-5.1	H	3.0	39.4	1.0	-43.4	-25.0	-18.4	
High Ch, 2682.5MHz									
5365.00	-4.8	V	3.0	39.9	1.0	-43.7	-25.0	-18.7	
8047.50	-11.1	V	3.0	39.2	1.0	-49.3	-25.0	-24.3	
10730.00	-5.8	V	3.0	38.5	1.0	-43.4	-25.0	-18.4	
13412.50	-5.4	V	3.0	39.8	1.0	-44.2	-25.0	-19.2	
5365.00	-8.9	H	3.0	39.9	1.0	-47.8	-25.0	-22.8	
8047.50	-10.8	H	3.0	39.2	1.0	-49.0	-25.0	-24.0	
10730.00	-6.5	H	3.0	38.5	1.0	-44.0	-25.0	-19.0	
13412.50	-4.8	H	3.0	39.8	1.0	-43.6	-25.0	-18.6	

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LTE
Band 41
10MHz
QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501MHz									
5002.00	-6.8	V	3.0	39.8	1.0	-45.6	-25.0	-20.6	
7503.00	-7.3	V	3.0	39.4	1.0	-45.7	-25.0	-20.7	
10004.00	-1.6	V	3.0	38.6	1.0	-39.2	-25.0	-14.2	
12505.00	-4.7	V	3.0	39.0	1.0	-42.6	-25.0	-17.6	
5002.00	-8.2	H	3.0	39.8	1.0	-47.0	-25.0	-22.0	
7503.00	-9.1	H	3.0	39.4	1.0	-47.5	-25.0	-22.5	
10004.00	-7.8	H	3.0	38.6	1.0	-45.4	-25.0	-20.4	
12505.00	-6.0	H	3.0	39.0	1.0	-43.9	-25.0	-18.9	
Mid Ch, 2593MHz									
5186.00	-8.0	V	3.0	39.8	1.0	-46.8	-25.0	-21.8	
7779.00	-7.8	V	3.0	39.3	1.0	-46.1	-25.0	-21.1	
10372.00	-2.4	V	3.0	38.6	1.0	-40.0	-25.0	-15.0	
12965.00	-2.7	V	3.0	39.4	1.0	-41.1	-25.0	-16.1	
5186.00	-5.4	H	3.0	39.8	1.0	-44.2	-25.0	-19.2	
7779.00	-7.6	H	3.0	39.3	1.0	-45.9	-25.0	-20.9	
10372.00	-8.6	H	3.0	38.6	1.0	-46.2	-25.0	-21.2	
12965.00	-5.2	H	3.0	39.4	1.0	-43.6	-25.0	-18.6	
High Ch, 2685MHz									
5370.00	-6.1	V	3.0	39.9	1.0	-44.9	-25.0	-19.9	
8055.00	-9.6	V	3.0	39.2	1.0	-47.8	-25.0	-22.8	
10740.00	-4.2	V	3.0	38.5	1.0	-41.8	-25.0	-16.8	
13425.00	-4.8	V	3.0	39.8	1.0	-43.6	-25.0	-18.6	
5370.00	-3.9	H	3.0	39.9	1.0	-42.8	-25.0	-17.8	
8055.00	-9.4	H	3.0	39.2	1.0	-47.5	-25.0	-22.5	
10740.00	-6.4	H	3.0	38.5	1.0	-44.0	-25.0	-19.0	
13425.00	0.0	H	3.0	39.8	1.0	-38.8	-25.0	-13.8	

LTE
Band 41
10MHz
16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501MHz									
5002.00	-8.9	V	3.0	39.8	1.0	-47.7	-25.0	-22.7	
7503.00	-8.1	V	3.0	39.4	1.0	-46.5	-25.0	-21.5	
10004.00	-1.8	V	3.0	38.6	1.0	-39.3	-25.0	-14.3	
12505.00	-4.5	V	3.0	39.0	1.0	-42.4	-25.0	-17.4	
5002.00	-9.6	H	3.0	39.8	1.0	-48.3	-25.0	-23.3	
7503.00	-10.6	H	3.0	39.4	1.0	-49.0	-25.0	-24.0	
10004.00	-9.3	H	3.0	38.6	1.0	-46.9	-25.0	-21.9	
12505.00	-6.5	H	3.0	39.0	1.0	-44.5	-25.0	-19.5	
Mid Ch, 2593MHz									
5186.00	-8.7	V	3.0	39.8	1.0	-47.5	-25.0	-22.5	
7779.00	-8.6	V	3.0	39.3	1.0	-46.9	-25.0	-21.9	
10372.00	-3.6	V	3.0	38.6	1.0	-41.1	-25.0	-16.1	
12965.00	-3.9	V	3.0	39.4	1.0	-42.2	-25.0	-17.2	
5186.00	-9.4	H	3.0	39.8	1.0	-48.2	-25.0	-23.2	
7779.00	-5.9	H	3.0	39.3	1.0	-44.2	-25.0	-19.2	
10372.00	-9.3	H	3.0	38.6	1.0	-46.8	-25.0	-21.8	
12965.00	-6.2	H	3.0	39.4	1.0	-44.6	-25.0	-19.6	
High Ch, 2685MHz									
5370.00	-6.6	V	3.0	39.9	1.0	-45.5	-25.0	-20.5	
8055.00	-10.3	V	3.0	39.2	1.0	-48.5	-25.0	-23.5	
10740.00	-4.8	V	3.0	38.5	1.0	-42.4	-25.0	-17.4	
13425.00	-4.3	V	3.0	39.8	1.0	-43.1	-25.0	-18.1	
5370.00	-4.7	H	3.0	39.9	1.0	-43.6	-25.0	-18.6	
8055.00	-10.4	H	3.0	39.2	1.0	-48.6	-25.0	-23.6	
10740.00	-7.0	H	3.0	38.5	1.0	-44.5	-25.0	-19.5	
13425.00	0.0	H	3.0	39.8	1.0	-38.8	-25.0	-13.8	

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LTE

Band 41

5MHz

QPSK

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.5MHz									
4997.00	-7.3	V	3.0	39.8	1.0	-46.1	-25.0	-21.1	
7495.50	-8.7	V	3.0	39.4	1.0	-47.1	-25.0	-22.1	
9994.00	-1.7	V	3.0	38.6	1.0	-39.3	-25.0	-14.3	
12492.50	-5.0	V	3.0	38.9	1.0	-43.0	-25.0	-18.0	
4997.00	-8.6	H	3.0	39.8	1.0	-47.3	-25.0	-22.3	
7495.50	-9.1	H	3.0	39.4	1.0	-47.5	-25.0	-22.5	
9994.00	-6.5	H	3.0	38.6	1.0	-44.1	-25.0	-19.1	
12492.50	-6.0	H	3.0	38.9	1.0	-43.9	-25.0	-18.9	
Mid Ch, 2593MHz									
5186.00	-7.1	V	3.0	39.8	1.0	-45.9	-25.0	-20.9	
7779.00	-6.6	V	3.0	39.3	1.0	-44.9	-25.0	-19.9	
10372.00	-5.5	V	3.0	38.6	1.0	-43.1	-25.0	-18.1	
12965.00	-2.8	V	3.0	39.4	1.0	-41.1	-25.0	-16.1	
5186.00	-9.6	H	3.0	39.8	1.0	-48.5	-25.0	-23.5	
7779.00	-7.1	H	3.0	39.3	1.0	-45.3	-25.0	-20.3	
10372.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
12965.00	0.0	H	3.0	39.4	1.0	-38.4	-25.0	-13.4	
High Ch, 2687.5MHz									
5375.00	-6.3	V	3.0	39.9	1.0	-45.2	-25.0	-20.2	
8062.50	-8.6	V	3.0	39.1	1.0	-46.7	-25.0	-21.7	
10750.00	-5.6	V	3.0	38.5	1.0	-43.2	-25.0	-18.2	
13437.50	-3.8	V	3.0	39.8	1.0	-42.6	-25.0	-17.6	
5375.00	-4.8	H	3.0	39.9	1.0	-43.7	-25.0	-18.7	
8062.50	-9.9	H	3.0	39.1	1.0	-48.1	-25.0	-23.1	
10750.00	-6.8	H	3.0	38.5	1.0	-44.3	-25.0	-19.3	
13437.50	-4.4	H	3.0	39.8	1.0	-43.2	-25.0	-18.2	

LTE

Band 41

5MHz

16QAM

UL Verification Services, Inc.
Above 1GHz High Frequency Substitution Measurement

Company: Samsung
Project #: 4788397759
Date: 2018-04-06
Test Engineer: 47989
Configuration: EUT / AC Adapter / Earphone, X-Position
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.5MHz									
4997.00	-7.3	V	3.0	39.8	1.0	-46.1	-25.0	-21.1	
7495.50	-8.7	V	3.0	39.4	1.0	-47.1	-25.0	-22.1	
9994.00	-1.7	V	3.0	38.6	1.0	-39.3	-25.0	-14.3	
12492.50	-5.0	V	3.0	38.9	1.0	-43.0	-25.0	-18.0	
4997.00	-8.6	H	3.0	39.8	1.0	-47.3	-25.0	-22.3	
7495.50	-9.1	H	3.0	39.4	1.0	-47.5	-25.0	-22.5	
9994.00	-6.5	H	3.0	38.6	1.0	-44.1	-25.0	-19.1	
12492.50	-6.0	H	3.0	38.9	1.0	-43.9	-25.0	-18.9	
Mid Ch, 2593MHz									
5186.00	-7.1	V	3.0	39.8	1.0	-45.9	-25.0	-20.9	
7779.00	-6.6	V	3.0	39.3	1.0	-44.9	-25.0	-19.9	
10372.00	-5.5	V	3.0	38.6	1.0	-43.1	-25.0	-18.1	
12965.00	-2.8	V	3.0	39.4	1.0	-41.1	-25.0	-16.1	
5186.00	-9.6	H	3.0	39.8	1.0	-48.5	-25.0	-23.5	
7779.00	-7.1	H	3.0	39.3	1.0	-45.3	-25.0	-20.3	
10372.00	-6.1	H	3.0	38.6	1.0	-43.7	-25.0	-18.7	
12965.00	0.0	H	3.0	39.4	1.0	-38.4	-25.0	-13.4	
High Ch, 2687.5MHz									
5375.00	-6.3	V	3.0	39.9	1.0	-45.2	-25.0	-20.2	
8062.50	-8.6	V	3.0	39.1	1.0	-46.7	-25.0	-21.7	
10750.00	-5.6	V	3.0	38.5	1.0	-43.2	-25.0	-18.2	
13437.50	-3.8	V	3.0	39.8	1.0	-42.6	-25.0	-17.6	
5375.00	-4.8	H	3.0	39.9	1.0	-43.7	-25.0	-18.7	
8062.50	-9.9	H	3.0	39.1	1.0	-48.1	-25.0	-23.1	
10750.00	-6.8	H	3.0	38.5	1.0	-44.3	-25.0	-19.3	
13437.50	-4.4	H	3.0	39.8	1.0	-43.2	-25.0	-18.2	

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