

GSM 1900

Reference Frequency: PCS Mid Channel Limit: to stay +/- 2.5 ppm =			1880 4700.000	MHz @ 20°C Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1880.000033	0.011	2.5
3.80	40	1880.000035	0.010	2.5
3.80	30	1880.000040	0.007	2.5
3.80	20	1880.000053	0	2.5
3.80	10	1880.000044	0.005	2.5
3.80	0	1880.000043	0.005	2.5
3.80	-10	1880.000098	-0.024	2.5
3.80	-20	1880.000085	-0.017	2.5
3.80	-30	1880.000070	-0.009	2.5

Reference Frequency: PCS Mid Channel			1880	MHz @ 20°C
Limit: to stay +/- 2.5 ppm =			4700.000	Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	1880.000053	0	2.5
4.20	20	1880.000055	-0.001	2.5
3.6(End of Volt)	20	1880.000053	0.000	2.5

LTE Band 7

Reference Frequency: Cellular Mid Channel 2535.000019 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 6337.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	2534.999992	0.000	2.5
3.80	40	2534.999991	0.000	2.5
3.80	30	2534.999991	0.000	2.5
3.80	20	2534.999992	0	2.5
3.80	10	2534.999993	0.000	2.5
3.80	0	2534.999993	-0.001	2.5
3.80	-10	2534.999992	0.000	2.5
3.80	-20	2534.999991	0.000	2.5
3.80	-30	2534.999991	0.000	2.5

Reference Frequency: Cellular Mid Channel 2535.000019 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 6337.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	2534.999992	0	2.5
4.20	20	2534.999992	0.000	2.5
3.6(End of Volt)	20	2534.999990	0.001	2.5

LTE Band 12

Reference Frequency: Cellular Mid Channel 707.5 MHz @ 20°C Limit: to stay +- 2.5 ppm = 1768.500 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	707.499996	0.008	2.5
3.80	40	707.499997	0.007	2.5
3.80	30	707.500002	0.000	2.5
3.80	20	707.500002	0	2.5
3.80	10	707.500004	-0.002	2.5
3.80	0	707.500003	-0.001	2.5
3.80	-10	707.500002	0.000	2.5
3.80	-20	707.500002	0.000	2.5
3.80	-30	707.500003	-0.001	2.5
Reference Frequency: Cellular Mid Channel 707.5 MHz @ 20°C Limit: to stay +- 2.5 ppm = 1768.750 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	707.500002	0	2.5
4.20	20	707.500002	0.000	2.5
3.6(End of Volt)	20	707.500003	-0.001	2.5

LTE Band 13

Reference Frequency: Cellular Mid Channel Limit: to stay +/- 2.5 ppm =					782 1955.000	MHz @ 20°C Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse				
		(MHz)	Delta (ppm)	Limit (ppm)		
3.80	50	781.999997	0.001	2.5		
3.80	40	781.999997	0.000	2.5		
3.80	30	781.999997	0.000	2.5		
3.80	20	781.999997	0	2.5		
3.80	10	782.000003	-0.007	2.5		
3.80	0	782.000003	-0.007	2.5		
3.80	-10	782.000002	-0.006	2.5		
3.80	-20	782.000002	-0.006	2.5		
3.80	-30	782.000001	-0.005	2.5		
782.0000000			-0.003			
Reference Frequency: PCS Mid Channel Limit: to stay +/- 2.5 ppm =					782 1955.000	MHz @ 20°C Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse				
		(MHz)	Delta (ppm)	Limit (ppm)		
3.80	20	781.999997	0	2.5		
4.20	20	781.9999969	0.000	2.5		
3.6(End of volt)	20	782.0000027	-0.007	2.5		

14. RADIATED TEST RESULTS

14.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2. 1046, §22. 913, §24. 232 and §27.50

LIMITS

22.913 (a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232 (c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (b) - (10) Portable stations (handheld devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP. (LTE B13)

27.50 (c) - (10) Portable stations (handheld devices) are limited to 3 watts ERP; (LTE B17)

27.50 (h) - (2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power. (LTE B41 & 7)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603D Clause 2.2.17; PSA setting reference to 971168 D01 v02r02

For peak power measurement with a PSA:

a) Set the RBW $\geq$ OBW; b) Set VBW $\geq 3 \times$ RBW; c) Set span $\geq 2 \times$ RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points $\geq$ span/RBW; g) Trace mode = max hold;

For average power measurement with a PSA:

a) Set span to at least 1.5 times the OBW; b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz; c) Set VBW $\geq 3 \times$ RBW; d) Set number of points in sweep $\geq 2 \times$ span / RBW; e) Sweep time = auto-couple; f) Detector = RMS (power averaging); g) Use free run trigger If burst duty cycle ≥ 98 ; h) Use trigger to capture bursts If burst duty cycle < 98 ; i) Trace average at least 100 traces in power averaging (*i.e.*, RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

14.1.1. ERP/EIRP RESULTS AND TABLE

GSM

Band	Mode	Channel	f(MHz)	ERP/EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	27.50	562.34
		190	836.6	28.27	671.43
		251	848.8	28.31	677.64
	EGPRS	128	824.2	22.72	187.07
		190	836.6	23.10	204.17
		251	848.8	23.36	216.77
GSM1900	GPRS	512	1850.2	28.05	638.26
		661	1880	27.88	613.76
		810	1909.8	28.06	639.73
	EGPRS	512	1850.2	22.86	193.20
		661	1880	21.90	154.88
		810	1909.8	22.94	196.79

High Frequency Substitution Measurement UL Verification Services, Inc.									
Company: SOMC Project #: 16J22997 MA Date: 03/15/16 Test Engineer: 43574 JS Configuration: EUT Only (X-Position) Location: Chamber C Mode: GPRS 850 MHz Fundamentals									
Test Equipment: Receiving: Hybrid T122, and Chamber C SMA Cables Substitution: Dipole T416, 6ft SMA Cable									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch									
824.20	21.90	V	0.9	0.0	21.00	38.5	-17.5		
824.20	28.40	H	0.9	0.0	27.50	38.5	-11.0		
Mid Ch									
836.60	20.50	V	0.9	0.0	19.60	38.5	-18.9		
836.60	29.17	H	0.9	0.0	28.27	38.5	-10.2		
High Ch									
848.80	20.77	V	0.9	0.0	19.87	38.5	-18.6		
848.80	29.21	H	0.9	0.0	28.31	38.5	-10.2		

GSM850 GPRS

High Frequency Substitution Measurement UL Verification Services, Inc.									
Company: SOMC Project #: 16J22997 MA Date: 03/15/16 Test Engineer: 43574 JS Configuration: EUT Only (X-Position) Location: Chamber C Mode: EGPRS 850 MHz Fundamentals									
Test Equipment: Receiving: Hybrid T122, and Chamber C SMA Cables Substitution: Dipole T416, 6ft SMA Cable									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch									
824.20	16.90	V	0.9	0.0	16.00	38.5	-22.5		
824.20	23.62	H	0.9	0.0	22.72	38.5	-15.8		
Mid Ch									
836.60	14.90	V	0.9	0.0	14.00	38.5	-24.5		
836.60	24.00	H	0.9	0.0	23.10	38.5	-15.4		
High Ch									
848.80	15.40	V	0.9	0.0	14.50	38.5	-24.0		
848.80	24.26	H	0.9	0.0	23.36	38.5	-15.1		

GSM850 EGPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C									
Company: SOMC Project #: 16J22997 MA Date: 03/15/16 Test Engineer: 43574 JS Configuration: EUT Only (X-Position) Location: Chamber C Mode: GPRS 1900									
Test Equipment: Receiving: Horn T344 and Chamber C SMA Cables Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes	
Low Ch									
1850.20	13.00	V	0.9	8.9	21.00	33.0	-12.0		
1850.20	20.05	H	0.9	8.9	28.05	33.0	-5.0		
Mid Ch									
1880.00	13.08	V	0.9	8.9	21.08	33.0	-11.9		
1880.00	19.88	H	0.9	8.9	27.88	33.0	-5.1		
High Ch									
1909.80	14.48	V	0.9	8.9	22.48	33.0	-10.5		
1909.80	20.06	H	0.9	8.9	28.06	33.0	-4.9		

Rev. 3 17 11
Note: For Band 4 EIRP limit is 30dBm

GSM1900 GPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C									
Company: SOMC Project #: 16J22997 MA Date: 03/15/16 Test Engineer: 43574 JS Configuration: EUT Only (X-Position) Location: Chamber C Mode: EGPRS 1900									
Test Equipment: Receiving: Horn T344 and Chamber C SMA Cables Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes	
Low Ch									
1850.20	9.08	V	0.9	8.9	17.08	33.0	-15.9		
1850.20	14.86	H	0.9	8.9	22.86	33.0	-10.1		
Mid Ch									
1880.00	7.98	V	0.9	8.9	15.98	33.0	-17.0		
1880.00	13.90	H	0.9	8.9	21.90	33.0	-11.1		
High Ch									
1909.80	10.20	V	0.9	8.9	18.20	33.0	-14.8		
1909.80	14.94	H	0.9	8.9	22.94	33.0	-10.1		

Rev. 3 17 11
Note: For Band 4 EIRP limit is 30dBm

GSM1900 EGPRS

WCDMA

Band	Mode	Channel	f(MHz)	ERP/EIRP	
				dBm	mW
Band 5	REL99	4132	826.4	19.49	88.92
		4183	836.6	20.47	111.43
		4233	846.6	20.45	110.92
	HSDPA	4132	826.4	18.73	74.64
		4183	836.6	19.92	98.17
		4233	846.6	19.16	82.41

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:

SOMC

Project #:

16J22997 MA

Date:

03/15/16

Test Engineer:

43574 JS

Configuration:

EUT Only (X-Position)

Mode:

REL 99 Fundamentals

Test Equipment:

Receiving: Hybrid T122, and Chamber C SMA Cables

Substitution: Dipole T416, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	11.20	V	0.9	0.0	10.30	38.5	-28.1	
826.40	20.39	H	0.9	0.0	19.49	38.5	-19.0	
Mid Ch								
836.60	9.99	V	0.9	0.0	9.09	38.5	-29.4	
836.60	21.37	H	0.9	0.0	20.47	38.5	-18.0	
High Ch								
846.60	10.50	V	0.9	0.0	9.60	38.5	-28.8	
846.60	21.35	H	0.9	0.0	20.45	38.5	-18.0	

Rev. 3.17.11

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

B5 REL99

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company:

SOMC

Project #:

16J22997 MA

Date:

03/15/16

Test Engineer:

43574 JS

Configuration:

EUT Only (X-Position)

Mode:

REL 99 Fundamentals

Test Equipment:

Receiving: Hybrid T122, and Chamber C SMA Cables

Substitution: Dipole T416, 6ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	12.70	V	0.9	0.0	11.80	38.5	-26.6	
826.40	19.63	H	0.9	0.0	18.73	38.5	-19.7	
Mid Ch								
836.60	11.41	V	0.9	0.0	10.51	38.5	-27.9	
836.60	20.82	H	0.9	0.0	19.92	38.5	-18.5	
High Ch								
846.60	11.09	V	0.9	0.0	10.19	38.5	-28.3	
846.60	20.06	H	0.9	0.0	19.16	38.5	-19.3	

Rev. 3.17.11

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

B5 HSDPA

LTE Band 7

BW (MHz)	Mode	RB/RB Size	f(MHz)	EIRP	
				dBm	mW
5	QPSK	1/0	2502.5	13.89	24.49
		1/0	2535	13.79	23.93
		1/0	2567.5	13.70	23.44
	16QAM	1/0	2502.5	13.51	22.44
		1/0	2535	13.53	22.54
		1/0	2567.5	13.40	21.88
10	QPSK	1/0	2505	13.80	23.99
		1/0	2535	13.82	24.10
		1/0	2565	13.64	23.12
	16QAM	1/0	2505	13.44	22.08
		1/0	2535	13.49	22.34
		1/0	2565	13.34	21.58
15	QPSK	1/0	2507.5	13.79	23.93
		1/0	2535	13.77	23.82
		1/0	2562.5	13.59	22.86
	16QAM	1/0	2507.5	13.56	22.70
		1/0	2535	13.51	22.44
		1/0	2562.5	13.45	22.13
20	QPSK	1/0	2510	13.77	23.82
		1/0	2535	13.75	23.71
		1/0	2560	13.62	23.01
	16QAM	1/0	2510	13.46	22.18
		1/0	2535	13.48	22.28
		1/0	2560	13.46	22.18

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_QPSK Band 7 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2502.50	-6.06	V	0.9	9.5	2.54	33.0	-30.5	
2502.50	5.29	H	0.9	9.5	13.89	33.0	-19.1	
Mid Ch								
2535.00	-6.63	V	0.9	9.4	1.87	33.0	-31.1	
2535.00	5.25	H	0.9	9.4	13.79	33.0	-19.2	
High Ch								
2567.50	-6.20	V	0.9	9.4	2.30	33.0	-30.7	
2567.50	5.20	H	0.9	9.4	13.70	33.0	-19.3	

LTE B7 5MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_16QAM Band 7 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2502.50	-6.34	V	0.9	9.5	2.26	33.0	-30.7	
2502.50	4.91	H	0.9	9.5	13.51	33.0	-19.5	
Mid Ch								
2535.00	-6.85	V	0.9	9.4	1.65	33.0	-31.4	
2535.00	4.99	H	0.9	9.4	13.53	33.0	-19.5	
High Ch								
2567.50	-6.01	V	0.9	9.4	2.49	33.0	-30.5	
2567.50	4.90	H	0.9	9.4	13.40	33.0	-19.6	

LTE B7 5MHz 16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_QPSK Band 7 Fundamentals, 10MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2505.00	-6.05	V	0.9	9.5	2.55	33.0	-30.5	
2505.00	5.20	H	0.9	9.5	13.80	33.0	-19.2	
Mid Ch								
2535.00	-6.57	V	0.9	9.4	1.93	33.0	-31.1	
2535.00	5.28	H	0.9	9.4	13.82	33.0	-19.2	
High Ch								
2565.00	-5.15	V	0.9	9.4	3.35	33.0	-29.7	
2565.00	5.14	H	0.9	9.4	13.64	33.0	-19.4	

LTE B7 10MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_16QAM Band 7 Fundamentals, 10MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2505.00	-6.34	V	0.9	9.5	2.26	33.0	-30.7	
2505.00	4.84	H	0.9	9.5	13.44	33.0	-19.6	
Mid Ch								
2535.00	-6.99	V	0.9	9.4	1.51	33.0	-31.5	
2535.00	4.95	H	0.9	9.4	13.49	33.0	-19.5	
High Ch								
2565.00	-5.97	V	0.9	9.4	2.53	33.0	-30.5	
2565.00	4.84	H	0.9	9.4	13.34	33.0	-19.7	

LTE B7 10MHz 16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_QPSK Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	-5.93	V	0.9	9.5	2.67	33.0	-30.3	
2507.50	5.19	H	0.9	9.5	13.79	33.0	-19.2	
Mid Ch								
2535.00	-6.63	V	0.9	9.4	1.87	33.0	-31.1	
2535.00	5.23	H	0.9	9.4	13.77	33.0	-19.2	
High Ch								
2562.50	-6.33	V	0.9	9.4	2.17	33.0	-30.8	
2562.50	5.09	H	0.9	9.4	13.59	33.0	-19.4	

LTE B7 15MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

SONY

Project #:

16J22997-MA

Date:

3/14/2016

Test Engineer:

39005 RA

Configuration:

EUT Only

Location:

Chamber C

Mode:

LTE_16QAM Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T119, and Chamber C SMA Cables

Substitution:

Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2507.50	-6.37	V	0.9	9.5	2.23	33.0	-30.8	
2507.50	4.96	H	0.9	9.5	13.36	33.0	-19.4	
Mid Ch								
2535.00	-6.86	V	0.9	9.4	1.64	33.0	-31.4	
2535.00	4.97	H	0.9	9.4	13.51	33.0	-19.5	
High Ch								
2562.50	-6.45	V	0.9	9.4	2.05	33.0	-31.0	
2562.50	4.95	H	0.9	9.4	13.45	33.0	-19.6	

LTE B7 15MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.									High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 7 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse									Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 7 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch									Low Ch								
2510.00	-5.96	V	0.9	9.5	2.64	33.0	-30.4		2510.00	-6.35	V	0.9	9.5	2.25	33.0	-30.8	
2510.00	5.17	H	0.9	9.5	13.77	33.0	-19.2		2510.00	4.86	H	0.9	9.5	13.46	33.0	-19.5	
Mid Ch									Mid Ch								
2535.00	-6.60	V	0.9	9.4	1.90	33.0	-31.1		2535.00	-6.84	V	0.9	9.4	1.66	33.0	-31.3	
2535.00	5.21	H	0.9	9.4	13.75	33.0	-19.3		2535.00	4.94	H	0.9	9.4	13.48	33.0	-19.5	
High Ch									High Ch								
2560.00	-6.37	V	0.9	9.4	2.13	33.0	-30.9		2560.00	-6.52	V	0.9	9.4	1.98	33.0	-31.0	
2560.00	5.12	H	0.9	9.4	13.62	33.0	-19.4		2560.00	4.96	H	0.9	9.4	13.46	33.0	-19.5	
LTE B7 20MHz QPSK									LTE B7 20MHz 16QAM								

LTE Band 12

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
1.4	QPSK	1/0	699.7	15.58	36.14
		1/0	707.5	15.31	33.96
		1/0	715.3	15.10	32.36
	16QAM	1/0	699.7	14.60	28.84
		1/0	707.5	14.39	27.48
		1/0	715.3	14.15	26.00
3	QPSK	1/0	700.5	15.20	33.11
		1/0	707.5	15.03	31.84
		1/0	714.5	15.00	31.62
	16QAM	1/0	700.5	14.20	26.30
		1/0	707.5	14.11	25.76
		1/0	714.5	14.02	25.23
5	QPSK	1/0	701.5	15.20	33.11
		1/0	707.5	15.06	32.06
		1/0	713.5	14.75	29.85
	16QAM	1/0	701.5	14.28	26.79
		1/0	707.5	14.30	26.92
		1/0	713.5	13.78	23.88
10	QPSK	1/0	704	15.37	34.43
		1/0	707.5	15.19	33.04
		1/0	711	14.92	31.05
	16QAM	1/0	704	14.65	29.17
		1/0	707.5	14.51	28.25
		1/0	711	14.10	25.70

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_QPSK Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	8.06	V	0.9	0.0	7.16	38.5	-31.3	
699.70	16.48	H	0.9	0.0	15.58	38.5	-22.9	
Mid Ch								
707.50	7.85	V	0.9	0.0	6.95	38.5	-31.6	
707.50	16.21	H	0.9	0.0	15.31	38.5	-23.2	
High Ch								
715.30	7.61	V	0.9	0.0	6.71	38.5	-31.8	
715.30	16.00	H	0.9	0.0	15.10	38.5	-23.4	

LTE B12 1.4MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_16QAM Band 12 Fundamentals, 1.4MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	7.32	V	0.9	0.0	6.42	38.5	-32.1	
699.70	15.50	H	0.9	0.0	14.60	38.5	-23.9	
Mid Ch								
707.50	7.17	V	0.9	0.0	6.27	38.5	-32.2	
707.50	15.29	H	0.9	0.0	14.39	38.5	-24.1	
High Ch								
715.30	6.92	V	0.9	0.0	6.02	38.5	-32.5	
715.30	15.05	H	0.9	0.0	14.15	38.5	-24.4	

LTE B12 1.4MHz 16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_QPSK Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	7.92	V	0.9	0.0	7.02	38.5	-31.5	
700.50	16.10	H	0.9	0.0	15.20	38.5	-23.3	
Mid Ch								
707.50	7.75	V	0.9	0.0	6.85	38.5	-31.7	
707.50	15.93	H	0.9	0.0	15.03	38.5	-23.5	
High Ch								
714.50	7.58	V	0.9	0.0	6.68	38.5	-31.8	
714.50	15.90	H	0.9	0.0	15.00	38.5	-23.5	

LTE B12 3MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_16QAM Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	7.10	V	0.9	0.0	6.20	38.5	-32.3	
700.50	15.10	H	0.9	0.0	14.20	38.5	-24.3	
Mid Ch								
707.50	6.96	V	0.9	0.0	6.06	38.5	-32.4	
707.50	15.01	H	0.9	0.0	14.11	38.5	-24.4	
High Ch								
714.50	6.80	V	0.9	0.0	5.90	38.5	-32.6	
714.50	14.92	H	0.9	0.0	14.02	38.5	-24.5	

LTE B12 3MHz 16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	9.76	V	0.9	0.0	8.86	38.5	-31.6	
701.50	19.82	H	0.9	0.0	18.92	38.5	-23.3	
Mid Ch								
707.50	9.85	V	0.9	0.0	8.95	38.5	-31.6	
707.50	19.87	H	0.9	0.0	18.96	38.5	-23.4	
High Ch								
713.50	9.84	V	0.9	0.0	8.94	38.5	-31.9	
713.50	19.88	H	0.9	0.0	18.98	38.5	-23.8	

LTE B12 5MHz QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:SONY

Project #:16J22997-MA

Date:3/14/2016

Test Engineer:39005 RA

Configuration:EUT Only

Location:Chamber C

Mode:LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Hybrid T185, and Chamber C SMA Cables

Substitution: Dipole T416, Xfr SMA Cable (SN # SERIALNUMBER) Warehouse

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	7.04	V	0.9	0.0	6.16	38.5	-32.3	
701.50	15.20	H	0.9	0.0	14.28	38.5	-24.2	
Mid Ch								
707.50	6.92	V	0.9	0.0	6.04	38.5	-32.5	
707.50	15.09	H	0.9	0.0	14.30	38.5	-24.2	
High Ch								
713.50	6.67	V	0.9	0.0	5.80	38.5	-32.7	
713.50	14.73	H	0.9	0.0	13.78	38.5	-24.7	

LTE B12 5MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.									High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth Test Equipment: Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse									Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth Test Equipment: Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch									Low Ch								
704.00	8.14	V	0.9	0.0	7.00	38.5	-31.5		704.00	7.31	V	0.9	0.0	6.46	38.5	-32.0	
704.00	16.70	H	0.9	0.0	15.37	38.5	-23.1		704.00	15.78	H	0.9	0.0	14.65	38.5	-23.9	
Mid Ch									Mid Ch								
707.50	7.84	V	0.9	0.0	6.89	38.5	-31.6		707.50	7.06	V	0.9	0.0	6.33	38.5	-32.2	
707.50	16.38	H	0.9	0.0	15.19	38.5	-23.3		707.50	15.51	H	0.9	0.0	14.51	38.5	-24.0	
High Ch									High Ch								
711.00	7.69	V	0.9	0.0	6.78	38.5	-31.7		711.00	6.81	V	0.9	0.0	6.01	38.5	-32.5	
711.00	15.89	H	0.9	0.0	14.92	38.5	-23.6		711.00	15.08	H	0.9	0.0	14.10	38.5	-24.4	
LTE B12 10MHz QPSK									LTE B12 10MHz 16QAM								

LTE Band 13

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
5	QPSK	1/0	779.5	18.01	63.24
		1/0	782	18.18	65.77
		1/0	784.5	18.28	67.30
	16QAM	1/0	779.5	16.98	49.89
		1/0	782	17.29	53.58
		1/0	784.5	17.30	53.70
10	QPSK	1/0	782	18.27	67.14
	16QAM	1/0	782	17.50	56.23

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/15/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_QPSK Band 13 Fundamentals, 5MHz Bandwidth								
<u>Test Equipment:</u>								
Receiving: Hybrid T185, and Chamber C SMA Cables								
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
779.50	9.88	V	0.9	0.0	8.98	34.8	-25.8	
779.50	18.91	H	0.9	0.0	18.01	34.8	-16.8	
Mid Ch								
782.00	9.99	V	0.9	0.0	9.09	34.8	-25.7	
782.00	19.08	H	0.9	0.0	18.18	34.8	-16.6	
High Ch								
784.50	9.70	V	0.9	0.0	8.80	34.8	-26.0	
784.50	19.18	H	0.9	0.0	18.28	34.8	-16.5	

LTE B13 5MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/15/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_16QAM Band 13 Fundamentals, 5MHz Bandwidth								
<u>Test Equipment:</u>								
Receiving: Hybrid T185, and Chamber C SMA Cables								
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
779.50	9.06	V	0.9	0.0	8.16	34.8	-26.6	
779.50	17.88	H	0.9	0.0	16.98	34.8	-17.8	
Mid Ch								
782.00	9.16	V	0.9	0.0	8.26	34.8	-26.5	
782.00	18.19	H	0.9	0.0	17.29	34.8	-17.5	
High Ch								
784.50	8.88	V	0.9	0.0	7.98	34.8	-26.8	
784.50	18.20	H	0.9	0.0	17.30	34.8	-17.5	

LTE B13 5MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/15/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_QPSK Band 13 Fundamentals, 10MHz Bandwidth								
<u>Test Equipment:</u>								
Receiving: Hybrid T185, and Chamber C SMA Cables								
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
782.00	10.08	V	0.9	0.0	9.18	34.8	-25.6	
782.00	19.17	H	0.9	0.0	18.27	34.8	-16.5	

LTE B13 10MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/15/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_16QAM Band 13 Fundamentals, 10MHz Bandwidth								
<u>Test Equipment:</u>								
Receiving: Hybrid T185, and Chamber C SMA Cables								
Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
782.00	9.24	V	0.9	0.0	8.34	34.8	-26.4	
782.00	18.40	H	0.9	0.0	17.50	34.8	-17.3	

LTE B13 10MHz 16QAM

LTE Band 17

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
5	QPSK	1/0	706.5	15.20	33.11
		1/0	710	15.06	32.06
		1/0	713.5	14.75	29.85
	16QAM	1/0	704.7	14.28	26.79
		1/0	710	14.30	26.92
		1/0	713.5	13.78	23.88
10	QPSK	1/0	709	15.37	34.43
		1/0	710	15.19	33.04
		1/0	711	14.92	31.05
	16QAM	1/0	709	14.65	29.17
		1/0	710	14.51	28.25
		1/0	711	14.10	25.70

High Frequency Substitution Measurement UL Verification Services, Inc. Company: SONY Project #: 16J22997-MA Date: 3/15/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth <u>Test Equipment:</u> Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse <table border="1"> <thead> <tr> <th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Cable Loss (dB)</th><th>Antenna Gain (dBd)</th><th>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr> </thead> <tbody> <tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>706.50</td><td>7.85</td><td>V</td><td>0.9</td><td>0.0</td><td>6.95</td><td>38.5</td><td>-31.6</td><td></td></tr> <tr><td>706.50</td><td>16.10</td><td>H</td><td>0.9</td><td>0.0</td><td>15.20</td><td>38.5</td><td>-23.3</td><td></td></tr> <tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>710.00</td><td>7.77</td><td>V</td><td>0.9</td><td>0.0</td><td>6.87</td><td>38.5</td><td>-31.6</td><td></td></tr> <tr><td>710.00</td><td>15.56</td><td>H</td><td>0.9</td><td>0.0</td><td>15.06</td><td>38.5</td><td>-23.4</td><td></td></tr> <tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>713.50</td><td>7.53</td><td>V</td><td>0.9</td><td>0.0</td><td>6.63</td><td>38.5</td><td>-31.9</td><td></td></tr> <tr><td>713.50</td><td>15.65</td><td>H</td><td>0.9</td><td>0.0</td><td>14.75</td><td>38.5</td><td>-23.8</td><td></td></tr> </tbody> </table> LTE B17 5MHz QPSK									f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									706.50	7.85	V	0.9	0.0	6.95	38.5	-31.6		706.50	16.10	H	0.9	0.0	15.20	38.5	-23.3		Mid Ch									710.00	7.77	V	0.9	0.0	6.87	38.5	-31.6		710.00	15.56	H	0.9	0.0	15.06	38.5	-23.4		High Ch									713.50	7.53	V	0.9	0.0	6.63	38.5	-31.9		713.50	15.65	H	0.9	0.0	14.75	38.5	-23.8	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
Low Ch																																																																																																		
706.50	7.85	V	0.9	0.0	6.95	38.5	-31.6																																																																																											
706.50	16.10	H	0.9	0.0	15.20	38.5	-23.3																																																																																											
Mid Ch																																																																																																		
710.00	7.77	V	0.9	0.0	6.87	38.5	-31.6																																																																																											
710.00	15.56	H	0.9	0.0	15.06	38.5	-23.4																																																																																											
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713.50	7.53	V	0.9	0.0	6.63	38.5	-31.9																																																																																											
713.50	15.65	H	0.9	0.0	14.75	38.5	-23.8																																																																																											
High Frequency Substitution Measurement UL Verification Services, Inc. Company: SONY Project #: 16J22997-MA Date: 3/15/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth <u>Test Equipment:</u> Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse <table border="1"> <thead> <tr> <th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Cable Loss (dB)</th><th>Antenna Gain (dBd)</th><th>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr> </thead> <tbody> <tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>706.50</td><td>7.06</td><td>V</td><td>0.9</td><td>0.0</td><td>6.16</td><td>38.5</td><td>-32.3</td><td></td></tr> <tr><td>706.50</td><td>15.18</td><td>H</td><td>0.9</td><td>0.0</td><td>14.28</td><td>38.5</td><td>-24.2</td><td></td></tr> <tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>710.00</td><td>6.94</td><td>V</td><td>0.9</td><td>0.0</td><td>6.04</td><td>38.5</td><td>-32.5</td><td></td></tr> <tr><td>710.00</td><td>15.20</td><td>H</td><td>0.9</td><td>0.0</td><td>14.30</td><td>38.5</td><td>-24.2</td><td></td></tr> <tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>713.50</td><td>6.70</td><td>V</td><td>0.9</td><td>0.0</td><td>5.80</td><td>38.5</td><td>-32.7</td><td></td></tr> <tr><td>713.50</td><td>14.68</td><td>H</td><td>0.9</td><td>0.0</td><td>13.78</td><td>38.5</td><td>-24.7</td><td></td></tr> </tbody> </table> LTE B17 5MHz 16QAM									f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									706.50	7.06	V	0.9	0.0	6.16	38.5	-32.3		706.50	15.18	H	0.9	0.0	14.28	38.5	-24.2		Mid Ch									710.00	6.94	V	0.9	0.0	6.04	38.5	-32.5		710.00	15.20	H	0.9	0.0	14.30	38.5	-24.2		High Ch									713.50	6.70	V	0.9	0.0	5.80	38.5	-32.7		713.50	14.68	H	0.9	0.0	13.78	38.5	-24.7	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
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706.50	7.06	V	0.9	0.0	6.16	38.5	-32.3																																																																																											
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High Frequency Substitution Measurement UL Verification Services, Inc. Company: SONY Project #: 16J22997-MA Date: 3/15/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth <u>Test Equipment:</u> Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse <table border="1"> <thead> <tr> <th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Cable Loss (dB)</th><th>Antenna Gain (dBd)</th><th>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr> </thead> <tbody> <tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>709.00</td><td>7.90</td><td>V</td><td>0.9</td><td>0.0</td><td>7.00</td><td>38.5</td><td>-31.5</td><td></td></tr> <tr><td>709.00</td><td>16.27</td><td>H</td><td>0.9</td><td>0.0</td><td>15.37</td><td>38.5</td><td>-23.1</td><td></td></tr> <tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>710.00</td><td>7.79</td><td>V</td><td>0.9</td><td>0.0</td><td>6.89</td><td>38.5</td><td>-31.6</td><td></td></tr> <tr><td>710.00</td><td>16.09</td><td>H</td><td>0.9</td><td>0.0</td><td>15.19</td><td>38.5</td><td>-23.3</td><td></td></tr> <tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>711.00</td><td>7.68</td><td>V</td><td>0.9</td><td>0.0</td><td>6.78</td><td>38.5</td><td>-31.7</td><td></td></tr> <tr><td>711.00</td><td>15.82</td><td>H</td><td>0.9</td><td>0.0</td><td>14.92</td><td>38.5</td><td>-23.6</td><td></td></tr> </tbody> </table> LTE B17 10MHz QPSK									f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									709.00	7.90	V	0.9	0.0	7.00	38.5	-31.5		709.00	16.27	H	0.9	0.0	15.37	38.5	-23.1		Mid Ch									710.00	7.79	V	0.9	0.0	6.89	38.5	-31.6		710.00	16.09	H	0.9	0.0	15.19	38.5	-23.3		High Ch									711.00	7.68	V	0.9	0.0	6.78	38.5	-31.7		711.00	15.82	H	0.9	0.0	14.92	38.5	-23.6	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
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709.00	7.90	V	0.9	0.0	7.00	38.5	-31.5																																																																																											
709.00	16.27	H	0.9	0.0	15.37	38.5	-23.1																																																																																											
Mid Ch																																																																																																		
710.00	7.79	V	0.9	0.0	6.89	38.5	-31.6																																																																																											
710.00	16.09	H	0.9	0.0	15.19	38.5	-23.3																																																																																											
High Ch																																																																																																		
711.00	7.68	V	0.9	0.0	6.78	38.5	-31.7																																																																																											
711.00	15.82	H	0.9	0.0	14.92	38.5	-23.6																																																																																											
High Frequency Substitution Measurement UL Verification Services, Inc. Company: SONY Project #: 16J22997-MA Date: 3/15/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 17 Fundamentals, 10MHz Bandwidth <u>Test Equipment:</u> Receiving: Hybrid T185, and Chamber C SMA Cables Substitution: Dipole T416, Xft SMA Cable (SN # SERIALNUMBER) Warehouse <table border="1"> <thead> <tr> <th>f MHz</th><th>SG reading (dBm)</th><th>Ant. Pol. (H/V)</th><th>Cable Loss (dB)</th><th>Antenna Gain (dBd)</th><th>ERP (dBm)</th><th>Limit (dBm)</th><th>Delta (dB)</th><th>Notes</th></tr> </thead> <tbody> <tr><td>Low Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>709.00</td><td>7.36</td><td>V</td><td>0.9</td><td>0.0</td><td>6.46</td><td>38.5</td><td>-32.0</td><td></td></tr> <tr><td>709.00</td><td>15.55</td><td>H</td><td>0.9</td><td>0.0</td><td>14.65</td><td>38.5</td><td>-23.9</td><td></td></tr> <tr><td>Mid Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>710.00</td><td>7.23</td><td>V</td><td>0.9</td><td>0.0</td><td>6.33</td><td>38.5</td><td>-32.2</td><td></td></tr> <tr><td>710.00</td><td>15.41</td><td>H</td><td>0.9</td><td>0.0</td><td>14.51</td><td>38.5</td><td>-24.0</td><td></td></tr> <tr><td>High Ch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>711.00</td><td>6.91</td><td>V</td><td>0.9</td><td>0.0</td><td>6.01</td><td>38.5</td><td>-32.5</td><td></td></tr> <tr><td>711.00</td><td>15.00</td><td>H</td><td>0.9</td><td>0.0</td><td>14.10</td><td>38.5</td><td>-24.4</td><td></td></tr> </tbody> </table> LTE B17 10MHz 16QAM									f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									709.00	7.36	V	0.9	0.0	6.46	38.5	-32.0		709.00	15.55	H	0.9	0.0	14.65	38.5	-23.9		Mid Ch									710.00	7.23	V	0.9	0.0	6.33	38.5	-32.2		710.00	15.41	H	0.9	0.0	14.51	38.5	-24.0		High Ch									711.00	6.91	V	0.9	0.0	6.01	38.5	-32.5		711.00	15.00	H	0.9	0.0	14.10	38.5	-24.4	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																										
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710.00	7.23	V	0.9	0.0	6.33	38.5	-32.2																																																																																											
710.00	15.41	H	0.9	0.0	14.51	38.5	-24.0																																																																																											
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711.00	6.91	V	0.9	0.0	6.01	38.5	-32.5																																																																																											
711.00	15.00	H	0.9	0.0	14.10	38.5	-24.4																																																																																											

LTE Band 41

BW (MHz)	Mode	RB/RB Size	f(MHz)	EIRP	
				dBm	mW
5	QPSK	1/0	2498.5	11.14	13.00
		1/0	2593	11.37	13.71
		1/0	2687.5	11.35	13.65
	16QAM	1/0	2498.5	10.72	11.80
		1/0	2593	10.84	12.13
		1/0	2687.5	11.03	12.68
10	QPSK	1/0	2501	10.98	12.53
		1/0	2593	11.20	13.18
		1/0	2685	11.33	13.58
	16QAM	1/0	2501	10.78	11.97
		1/0	2593	10.89	12.27
		1/0	2685	11.03	12.68
15	QPSK	1/0	2503.5	10.95	12.45
		1/0	2593	11.11	12.91
		1/0	2682.5	11.33	13.58
	16QAM	1/0	2503.5	10.69	11.72
		1/0	2593	10.80	12.02
		1/0	2682.5	11.02	12.65
20	QPSK	1/0	2506	10.95	12.45
		1/0	2593	11.37	13.71
		1/0	2680	11.29	13.46
	16QAM	1/0	2506	10.82	12.08
		1/0	2593	11.07	12.79
		1/0	2680	11.19	13.15

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_QPSK Band 41 Fundamentals, 5MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	-5.88	V	0.9	9.5	2.72	33.0	-30.3	
2498.50	2.54	H	0.9	9.5	11.14	33.0	-21.9	
Mid Ch								
2593.00	-6.61	V	0.9	9.4	1.89	33.0	-31.1	
2593.00	2.87	H	0.9	9.4	11.37	33.0	-21.6	
High Ch								
2687.50	-6.20	V	0.9	9.8	2.69	33.0	-30.3	
2687.50	2.46	H	0.9	9.8	11.35	33.0	-21.7	

LTE B41 5MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_16QAM Band 41 Fundamentals, 5MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2498.50	-6.27	V	0.9	9.5	2.33	33.0	-30.7	
2498.50	2.12	H	0.9	9.5	10.72	33.0	-22.3	
Mid Ch								
2593.00	-6.94	V	0.9	9.4	1.56	33.0	-31.4	
2593.00	2.34	H	0.9	9.4	10.84	33.0	-22.2	
High Ch								
2687.50	-6.65	V	0.9	9.8	2.24	33.0	-30.8	
2687.50	2.14	H	0.9	9.8	11.03	33.0	-22.0	

LTE B41 5MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_QPSK Band 41 Fundamentals, 10MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	-5.90	V	0.9	9.5	2.70	33.0	-30.3	
2501.00	2.38	H	0.9	9.5	10.98	33.0	-22.0	
Mid Ch								
2593.00	-6.54	V	0.9	9.4	1.96	33.0	-31.0	
2593.00	2.70	H	0.9	9.4	11.20	33.0	-21.8	
High Ch								
2685.00	-6.27	V	0.9	9.8	2.62	33.0	-30.4	
2685.00	2.44	H	0.9	9.8	11.33	33.0	-21.7	

LTE B41 10MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_16QAM Band 41 Fundamentals, 10MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2501.00	-6.29	V	0.9	9.5	2.31	33.0	-30.7	
2501.00	2.18	H	0.9	9.5	10.78	33.0	-22.2	
Mid Ch								
2593.00	-6.94	V	0.9	9.4	1.56	33.0	-31.4	
2593.00	2.39	H	0.9	9.4	10.89	33.0	-22.1	
High Ch								
2685.00	-6.69	V	0.9	9.8	2.20	33.0	-30.8	
2685.00	2.14	H	0.9	9.8	11.03	33.0	-22.0	

LTE B41 10MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_QPSK Band 41 Fundamentals, 15MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	-5.86	V	0.9	9.5	2.74	33.0	-30.3	
2503.50	2.35	H	0.9	9.5	10.95	33.0	-22.1	
Mid Ch								
2593.00	-6.53	V	0.9	9.4	1.97	33.0	-31.0	
2593.00	2.61	H	0.9	9.4	11.11	33.0	-21.9	
High Ch								
2682.50	-6.17	V	0.9	9.8	2.72	33.0	-30.3	
2682.50	2.44	H	0.9	9.8	11.33	33.0	-21.7	

LTE B41 15MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY								
Project #: 16J22997-MA								
Date: 3/14/2016								
Test Engineer: 39005 RA								
Configuration: EUT Only								
Location: Chamber C								
Mode: LTE_16QAM Band 41 Fundamentals, 15MHz Bandwidth								
Test Equipment:								
Receiving: Horn T119, and Chamber C SMA Cables								
Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2503.50	-6.29	V	0.9	9.5	2.31	33.0	-30.7	
2503.50	2.09	H	0.9	9.5	10.69	33.0	-22.3	
Mid Ch								
2593.00	-6.94	V	0.9	9.4	1.56	33.0	-31.4	
2593.00	2.30	H	0.9	9.4	10.80	33.0	-22.2	
High Ch								
2682.50	-6.51	V	0.9	9.8	2.38	33.0	-30.6	
2682.50	2.13	H	0.9	9.8	11.02	33.0	-22.0	

LTE B41 15MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc.									High Frequency Substitution Measurement UL Verification Services, Inc.								
Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_QPSK Band 41 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse									Company: SONY Project #: 16J22997-MA Date: 3/14/2016 Test Engineer: 39005 RA Configuration: EUT Only Location: Chamber C Mode: LTE_16QAM Band 41 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T119, and Chamber C SMA Cables Substitution: Horn T60, Xft SMA Cable (SN # SERIALNUMBER) Warehouse								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch									Low Ch								
2506.00	-5.88	V	0.9	9.5	2.72	33.0	-30.3		2506.00	-6.29	V	0.9	9.5	2.31	33.0	-30.7	
2506.00	2.35	H	0.9	9.5	10.95	33.0	-22.1		2506.00	2.22	H	0.9	9.5	10.82	33.0	-22.2	
Mid Ch									Mid Ch								
2593.00	-6.64	V	0.9	9.4	1.86	33.0	-31.1		2593.00	-6.77	V	0.9	9.4	1.73	33.0	-31.3	
2593.00	2.87	H	0.9	9.4	11.37	33.0	-21.6		2593.00	2.57	H	0.9	9.4	11.07	33.0	-21.9	
High Ch									High Ch								
2680.00	-6.17	V	0.9	9.8	2.72	33.0	-30.3		2680.00	-6.51	V	0.9	9.8	2.38	33.0	-30.6	
2680.00	2.40	H	0.9	9.8	11.29	33.0	-21.7		2680.00	2.30	H	0.9	9.8	11.19	33.0	-21.8	
LTE B41 20MHz QPSK									LTE B41 20MHz 16QAM								

14.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238 and §27.53

LIMIT

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

Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the Channel edge and 5 megahertz from the Channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the Channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the Channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on Channel BRS Channel 1 on the same terms and conditions as adjacent Channel BRS or EBS licensees.

TEST PROCEDURE

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

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

14.2.1. SPURIOUS RADIATION PLOTS

GSM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Sony								
Project #:		16J22997 MA								
Date:		3/14/2016								
Test Engineer:		O. Stoelling								
Configuration:		X-pos EUT + AC Charger + HS								
Location:		Chamber A								
Mode:		GPRS 850 MHz 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. 824.2										
1648.40	-18.3	V	3.0	39.3	1.0	-56.7	-13.0	-43.7		
2472.60	-22.5	V	3.0	38.6	1.0	-60.1	-13.0	-47.1		
3296.80	-21.0	V	3.0	38.1	1.0	-58.1	-13.0	-45.1		
1648.40	-18.3	H	3.0	39.3	1.0	-56.7	-13.0	-43.7		
2472.60	-21.4	H	3.0	38.6	1.0	-59.0	-13.0	-46.0		
3296.80	-20.3	H	3.0	38.1	1.0	-57.4	-13.0	-44.4		
Mid Ch. 836.6										
1673.20	-20.7	V	3.0	39.2	1.0	-58.9	-13.0	-45.9		
2509.80	-21.1	V	3.0	38.5	1.0	-58.6	-13.0	-45.6		
3346.40	-21.0	V	3.0	38.1	1.0	-58.0	-13.0	-45.0		
1673.20	-13.1	H	3.0	39.2	1.0	-51.3	-13.0	-38.3		
2509.80	-21.9	H	3.0	38.5	1.0	-59.4	-13.0	-46.4		
3346.40	-20.9	H	3.0	38.1	1.0	-57.9	-13.0	-44.9		
High Ch. 848.8										
1697.60	-14.5	V	3.0	39.1	1.0	-52.7	-13.0	-39.7		
2546.40	-20.1	V	3.0	38.5	1.0	-57.6	-13.0	-44.6		
3395.20	-20.9	V	3.0	38.0	1.0	-57.9	-13.0	-44.9		
1697.60	-15.1	H	3.0	39.1	1.0	-53.2	-13.0	-40.2		
2546.40	-22.2	H	3.0	38.5	1.0	-59.7	-13.0	-46.7		
3395.20	-20.7	H	3.0	38.0	1.0	-57.7	-13.0	-44.7		

GSM850 GPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Sony								
Project #:		16J22997 MA								
Date:		3/14/2016								
Test Engineer:		O. Stoelling								
Configuration:		X-pos EUT + AC Charger + HS								
Location:		Chamber A								
Mode:		GPRS 1900 MHz 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. 1850.2										
3700.40	-17.1	V	3.0	37.7	1.0	-53.9	-13.0	-40.9		
5550.60	-15.5	V	3.0	38.1	1.0	-52.6	-13.0	-39.6		
7400.80	-15.0	V	3.0	36.9	1.0	-50.9	-13.0	-37.9		
3700.40	-17.7	H	3.0	37.7	1.0	-54.4	-13.0	-41.4		
5550.60	-17.0	H	3.0	38.1	1.0	-54.1	-13.0	-41.1		
7400.80	-15.9	H	3.0	36.9	1.0	-51.7	-13.0	-38.7		
Mid Ch. 1880										
3760.00	-15.6	V	3.0	37.7	1.0	-52.3	-13.0	-39.3		
5640.00	-17.6	V	3.0	38.0	1.0	-54.6	-13.0	-41.6		
7520.00	-14.2	V	3.0	36.8	1.0	-50.0	-13.0	-37.0		
3760.00	-15.4	H	3.0	37.7	1.0	-52.1	-13.0	-39.1		
5640.00	-17.4	H	3.0	38.0	1.0	-54.4	-13.0	-41.4		
7520.00	-15.2	H	3.0	36.8	1.0	-51.0	-13.0	-38.0		
High Ch. 1909.8										
3819.60	-15.5	V	3.0	37.6	1.0	-52.1	-13.0	-39.1		
5729.40	-16.7	V	3.0	38.0	1.0	-53.7	-13.0	-40.7		
7639.20	-14.1	V	3.0	36.7	1.0	-49.8	-13.0	-36.8		
3819.60	-16.6	H	3.0	37.6	1.0	-53.2	-13.0	-40.2		
5729.40	-16.6	H	3.0	38.0	1.0	-53.6	-13.0	-40.6		
7639.20	-15.7	H	3.0	36.7	1.0	-51.4	-13.0	-38.4		

GSM1900 GPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Sony								
Project #:		16J22997 MA								
Date:		3/15/2016								
Test Engineer:		O. Stoelling								
Configuration:		X-pos EUT + AC Charger + HS								
Location:		Chamber A								
Mode:		EGPRS 850 MHz 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. 824.2										
1648.40	-21.7	V	3.0	39.3	1.0	-60.0	-13.0	-47.0		
2472.60	-22.5	V	3.0	38.6	1.0	-60.1	-13.0	-47.1		
3296.80	-20.5	V	3.0	38.1	1.0	-57.6	-13.0	-44.6		
1648.40	-24.3	H	3.0	39.3	1.0	-62.6	-13.0	-49.6		
2472.60	-22.6	H	3.0	38.6	1.0	-60.2	-13.0	-47.2		
3296.80	-19.9	H	3.0	38.1	1.0	-57.0	-13.0	-44.0		
Mid Ch. 836.6										
1673.20	-24.0	V	3.0	39.2	1.0	-62.2	-13.0	-49.2		
2509.80	-21.6	V	3.0	38.5	1.0	-59.1	-13.0	-46.1		
3346.40	-21.3	V	3.0	38.1	1.0	-58.4	-13.0	-45.4		
1673.20	-17.8	H	3.0	39.2	1.0	-56.0	-13.0	-43.0		
2509.80	-21.9	H	3.0	38.5	1.0	-59.4	-13.0	-46.4		
3346.40	-20.2	H	3.0	38.1	1.0	-57.3	-13.0	-44.3		
High Ch. 848.8										
1697.60	-24.5	V	3.0	39.1	1.0	-62.6	-13.0	-49.6		
2546.40	-22.3	V	3.0	38.5	1.0	-59.7	-13.0	-46.7		
3395.20	-20.7	V	3.0	38.0	1.0	-57.7	-13.0	-44.7		
1697.60	-25.0	H	3.0	39.1	1.0	-63.1	-13.0	-50.1		
2546.40	-21.8	H	3.0	38.5	1.0	-59.3	-13.0	-46.3		
3395.20	-19.9	H	3.0	38.0	1.0	-56.9	-13.0	-43.9		

GSM850 EGPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		Sony								
Project #:		16J22997 MA								
Date:		3/14/2016								
Test Engineer:		O. Stoelling								
Configuration:		X-pos EUT + AC Charger + HS								
Location:		Chamber A								
Mode:		EGPRS 1900 MHz 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. 1850.2										
3700.40	-18.2	V	3.0	37.7	1.0	-54.9	-13.0	-41.9		
5550.60	-15.7	V	3.0	38.1	1.0	-52.8	-13.0	-39.8		
7400.80	-15.5	V	3.0	36.9	1.0	-50.9	-13.0	-38.3		
3700.40	-16.4	H	3.0	37.7	1.0	-53.2	-13.0	-40.2		
5550.60	-16.2	H	3.0	38.1	1.0	-53.3	-13.0	-40.3		
7400.80	-16.2	H	3.0	36.9	1.0	-52.1	-13.0	-39.1		
Mid Ch. 1880										
3760.00	-16.4	V	3.0	37.7	1.0	-53.1	-13.0	-40.1		
5640.00	-16.7	V	3.0	38.0	1.0	-53.8	-13.0	-40.8		
7520.00	-14.2	V	3.0	36.8	1.0	-50.0	-13.0	-37.0		
3760.00	-16.6	H	3.0	37.7	1.0	-53.2	-13.0	-40.2		
5640.00	-16.6	H	3.0	38.0	1.0	-53.6	-13.0	-40.6		
7520.00	-14.5	H	3.0	36.8	1.0	-50.3	-13.0	-37.3		
High Ch. 1909.8										
3819.60	-16.1	V	3.0	37.6	1.0	-52.7	-13.0	-39.7		
5729.40	-16.9	V	3.0	38.0	1.0	-53.9	-13.0	-40.9		
7639.20	-14.9	V	3.0	36.7	1.0	-50.5	-13.0	-37.5		
3819.60	-16.4	H	3.0	37.6	1.0	-53.0	-13.0	-40.0		
5729.40	-15.9	H	3.0	38.0	1.0	-52.9	-13.0	-39.9		
7639.20	-14.9	H	3.0	36.7	1.0	-50.6	-13.0	-37.6		

GSM1900 EGPRS

WCDMA

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Sony							
Project #:		16J22997 MA							
Date:		3/15/2016							
Test Engineer:		O. Stoelling							
Configuration:		X-pos EUT + AC Charger + HS							
Location:		Chamber A							
Mode:		Rel99 Band 5 Harmonics							
F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. 826.4									
1652.80	-23.9	V	3.0	39.3	1.0	-62.2	-13.0	-49.2	
2479.20	-22.7	V	3.0	38.6	1.0	-60.3	-13.0	-47.3	
3305.60	-20.6	V	3.0	38.1	1.0	-57.7	-13.0	-44.7	
1652.80	-20.3	H	3.0	39.3	1.0	-58.6	-13.0	-45.6	
2479.20	-22.3	H	3.0	38.6	1.0	-59.8	-13.0	-46.8	
3305.60	-20.6	H	3.0	38.1	1.0	-57.7	-13.0	-44.7	
Mid Ch. 836.6									
1673.20	-23.2	V	3.0	39.2	1.0	-61.4	-13.0	-48.4	
2509.80	-21.6	V	3.0	38.5	1.0	-59.1	-13.0	-46.1	
3346.40	-21.1	V	3.0	38.1	1.0	-58.2	-13.0	-45.2	
1673.20	-20.4	H	3.0	39.2	1.0	-61.6	-13.0	-48.6	
2509.80	-22.0	H	3.0	38.5	1.0	-59.6	-13.0	-46.6	
3346.40	-20.3	H	3.0	38.1	1.0	-57.4	-13.0	-44.4	
High Ch. 846.6									
1693.20	-21.8	V	3.0	39.1	1.0	-59.9	-13.0	-46.9	
2539.80	-21.5	V	3.0	38.5	1.0	-59.0	-13.0	-46.0	
3386.40	-20.4	V	3.0	38.0	1.0	-57.4	-13.0	-44.4	
1693.20	-24.1	H	3.0	39.1	1.0	-62.2	-13.0	-49.2	
2539.80	-21.8	H	3.0	38.5	1.0	-59.3	-13.0	-46.3	
3386.40	-21.0	H	3.0	38.0	1.0	-58.0	-13.0	-45.0	

B5 REL99

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Sony							
Project #:		16J22997 MA							
Date:		3/15/2016							
Test Engineer:		O. Stoelling							
Configuration:		X-pos EUT + AC Charger + HS							
Location:		Chamber A							
Mode:		HSDPA Band 5 Harmonics							
F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. 826.4									
1652.80	-23.8	V	3.0	39.3	1.0	-62.1	-13.0	-49.1	
2479.20	-22.2	V	3.0	38.6	1.0	-59.7	-13.0	-46.7	
3305.60	-20.9	V	3.0	38.1	1.0	-58.0	-13.0	-45.0	
1652.80	-20.8	H	3.0	39.3	1.0	-59.1	-13.0	-46.1	
2479.20	-21.9	H	3.0	38.6	1.0	-59.5	-13.0	-46.5	
3305.60	-20.7	H	3.0	38.1	1.0	-57.7	-13.0	-44.7	
Mid Ch. 836.6									
1673.20	-24.2	V	3.0	39.2	1.0	-62.5	-13.0	-49.5	
2509.80	-22.4	V	3.0	38.5	1.0	-59.9	-13.0	-46.9	
3346.40	-20.5	V	3.0	38.1	1.0	-57.6	-13.0	-44.6	
1673.20	-24.9	H	3.0	39.2	1.0	-63.1	-13.0	-50.1	
2509.80	-21.8	H	3.0	38.5	1.0	-59.4	-13.0	-46.4	
3346.40	-20.7	H	3.0	38.1	1.0	-57.7	-13.0	-44.7	
High Ch. 846.6									
1693.20	-22.6	V	3.0	39.1	1.0	-60.8	-13.0	-47.8	
2539.80	-21.2	V	3.0	38.5	1.0	-58.7	-13.0	-45.7	
3386.40	-21.1	V	3.0	38.0	1.0	-58.1	-13.0	-45.1	
1693.20	-24.5	H	3.0	39.1	1.0	-62.6	-13.0	-49.6	
2539.80	-21.7	H	3.0	38.5	1.0	-59.2	-13.0	-46.2	
3386.40	-20.8	H	3.0	38.0	1.0	-57.8	-13.0	-44.8	

B5 HSDPA

LTE Band 7

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/14/2016									
Test Engineer:	O. Stoelting									
Configuration:	y-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 7 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2502.5										
5005.00	-12.5	V	3.0	38.2	1.0	49.7	-25.0	-24.7		
7507.50	-10.0	V	3.0	36.8	1.0	45.8	-25.0	-20.8		
10010.00	-9.0	V	3.0	34.7	1.0	42.7	-25.0	-17.7		
5005.00	-11.3	H	3.0	38.2	1.0	48.4	-25.0	-23.4		
7507.50	-11.1	H	3.0	36.8	1.0	46.9	-25.0	-21.9		
10010.00	-9.3	H	3.0	34.7	1.0	42.9	-25.0	-17.9		
Mid Ch, 2535										
5070.00	-12.7	V	3.0	38.2	1.0	49.9	-25.0	-24.9		
7605.00	-10.6	V	3.0	36.7	1.0	46.3	-25.0	-21.3		
10140.00	-8.1	V	3.0	34.4	1.0	41.6	-25.0	-16.6		
5070.00	-12.0	H	3.0	38.2	1.0	49.2	-25.0	-24.2		
7605.00	-10.0	H	3.0	36.7	1.0	45.8	-25.0	-20.8		
10140.00	-8.9	H	3.0	34.4	1.0	42.3	-25.0	-17.3		
High Ch, 2567.5										
5135.00	-13.0	V	3.0	38.2	1.0	50.2	-25.0	-25.2		
7702.50	-9.8	V	3.0	36.6	1.0	45.4	-25.0	-20.4		
10270.00	-9.3	V	3.0	34.2	1.0	42.5	-25.0	-17.5		
5135.00	-13.0	H	3.0	38.2	1.0	50.2	-25.0	-25.2		
7702.50	-11.1	H	3.0	36.6	1.0	46.7	-25.0	-21.7		
10270.00	-8.9	H	3.0	34.2	1.0	42.1	-25.0	-17.1		

LTE B7 5MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/14/2016									
Test Engineer:	O. Stoelting									
Configuration:	y-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 7 Harmonics, 10MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2505										
5010.00	-11.2	V	3.0	38.2	1.0	48.3	-25.0	-23.3		
7515.00	-10.0	V	3.0	36.8	1.0	45.8	-25.0	-20.8		
10020.00	-8.8	V	3.0	34.6	1.0	42.4	-25.0	-17.4		
5010.00	-11.9	H	3.0	38.2	1.0	49.0	-25.0	-24.0		
7515.00	-10.4	H	3.0	36.8	1.0	46.2	-25.0	-21.2		
10020.00	-9.6	H	3.0	34.6	1.0	43.2	-25.0	-18.2		
Mid Ch, 2535										
5070.00	-12.3	V	3.0	38.2	1.0	49.5	-25.0	-24.5		
7605.00	-10.7	V	3.0	36.7	1.0	46.5	-25.0	-21.5		
10140.00	-8.4	V	3.0	34.4	1.0	41.9	-25.0	-16.9		
5070.00	-12.2	H	3.0	38.2	1.0	49.4	-25.0	-24.4		
7605.00	-10.5	H	3.0	36.7	1.0	46.3	-25.0	-21.3		
10140.00	-9.0	H	3.0	34.4	1.0	42.4	-25.0	-17.4		
High Ch, 2565										
5130.00	-12.8	V	3.0	38.2	1.0	50.1	-25.0	-25.1		
7695.00	-11.0	V	3.0	36.6	1.0	46.7	-25.0	-21.7		
10260.00	-8.7	V	3.0	34.2	1.0	41.9	-25.0	-16.9		
5130.00	-13.6	H	3.0	38.2	1.0	50.8	-25.0	-25.8		
7695.00	-11.2	H	3.0	36.6	1.0	46.8	-25.0	-21.8		
10260.00	-9.2	H	3.0	34.2	1.0	42.5	-25.0	-17.5		

LTE B7 10MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/14/2016									
Test Engineer:	O. Stoelting									
Configuration:	y-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 7 Harmonics, 15MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2507.5										
5015.00	-11.7	V	3.0	38.2	1.0	48.9	-25.0	-23.9		
7522.50	-10.0	V	3.0	36.8	1.0	45.8	-25.0	-20.8		
10030.00	-8.9	V	3.0	34.6	1.0	42.5	-25.0	-17.5		
5015.00	-11.7	H	3.0	38.2	1.0	48.8	-25.0	-23.8		
7522.50	-11.1	H	3.0	36.8	1.0	46.9	-25.0	-21.9		
10030.00	-9.1	H	3.0	34.6	1.0	42.7	-25.0	-17.7		
Mid Ch, 2535										
5070.00	-13.3	V	3.0	38.2	1.0	50.5	-25.0	-25.5		
7605.00	-10.3	V	3.0	36.7	1.0	46.0	-25.0	-21.0		
10140.00	-9.0	V	3.0	34.4	1.0	42.5	-25.0	-17.5		
5070.00	-12.7	H	3.0	38.2	1.0	49.9	-25.0	-24.9		
7605.00	-9.9	H	3.0	36.7	1.0	45.6	-25.0	-20.6		
10140.00	-9.1	H	3.0	34.4	1.0	42.5	-25.0	-17.5		
High Ch, 2562.5										
5125.00	-11.9	V	3.0	38.2	1.0	49.1	-25.0	-24.1		
7687.50	-10.6	V	3.0	36.6	1.0	46.3	-25.0	-21.3		
10250.00	-8.5	V	3.0	34.2	1.0	41.8	-25.0	-16.8		
5125.00	-13.4	H	3.0	38.2	1.0	50.7	-25.0	-25.7		
7687.50	-11.5	H	3.0	36.6	1.0	47.2	-25.0	-22.2		
10250.00	-9.2	H	3.0	34.2	1.0	42.4	-25.0	-17.4		

LTE B7 5MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/14/2016									
Test Engineer:	O. Stoelting									
Configuration:	y-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_16QAM Band 7 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2502.5										
5005.00	-12.4	V	3.0	38.2	1.0	49.6	-25.0	-24.6		
7507.50	-9.1	V	3.0	36.8	1.0	44.9	-25.0	-19.9		
10010.00	-8.5	V	3.0	34.7	1.0	42.1	-25.0	-17.1		
5005.00	-11.9	H	3.0	38.2	1.0	49.0	-25.0	-24.0		
7507.50	-10.8	H	3.0	36.8	1.0	46.6	-25.0	-21.6		
10010.00	-9.4	H	3.0	34.7	1.0	43.1	-25.0	-18.1		
Mid Ch, 2535										
5070.00	-12.4	V	3.0	38.2	1.0	49.6	-25.0	-24.6		
7605.00	-10.4	V	3.0	36.7	1.0	46.1	-25.0	-21.1		
10140.00	-8.0	V	3.0	34.4	1.0	41.4	-25.0	-16.4		
5070.00	-13.0	H	3.0	38.2	1.0	50.2	-25.0	-25.2		
7605.00	-11.3	H	3.0	36.7	1.0	47.0	-25.0	-22.0		
10140.00	-9.1	H	3.0	34.4	1.0	42.6	-25.0	-17.6		
High Ch, 2567.5										
5135.00	-12.9	V	3.0	38.2	1.0	50.1	-25.0	-25.1		
7702.50	-11.0	V	3.0	36.6	1.0	46.6	-25.0	-21.6		
10270.00	-8.8	V	3.0	34.2	1.0	42.0	-25.0	-17.0		
5135.00	-12.9	H	3.0	38.2	1.0	50.1	-25.0	-25.1		
7702.50	-10.2	H	3.0	36.6	1.0	45.8	-25.0	-20.8		
10270.00	-9.2	H	3.0	34.2	1.0	42.5	-25.0	-17.5		

LTE B7 10MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/14/2016									
Test Engineer:	O. Stoelting									
Configuration:	y-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_16QAM Band 7 Harmonics, 15MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2507.5										
5015.00	-12.2	V	3.0	38.2	1.0	49.3	-25.0	-24.3		
7522.50	-9.4	V	3.0	36.8	1.0	45.2	-25.0	-20.2		
10030.00	-9.3	V	3.0	34.6	1.0	42.9	-25.0	-17.9		
5015.00	-10.9	H	3.0	38.2	1.0	48.1	-25.0	-23.1		
7522.50	-11.2	H	3.0	36.8	1.0	46.9	-25.0	-21.9		
10030.00	-8.1	H	3.0	34.6	1.0	41.7	-25.0	-16.7		
Mid Ch, 2535										
5070.00	-12.8	V	3.0	38.2	1.0	50.0	-25.0	-25.0		
7605.00	-10.1	V	3.0	36.7	1.0	45.8	-25.0	-20.8		
10140.00	-9.3	V	3.0	34.4	1.0	42.7	-25.0	-17.7		
5070.00	-12.3	H	3.0	38.2	1.0	49.5	-25.0	-24.5		
7605.00	-11.2	H	3.0	36.7	1.0	46.9	-25.0	-21.9		
10140.00	-8.8	H	3.0	34.4	1.0	42.4	-25.0	-17.4		
High Ch, 2562.5										
5125.00	-13.3	V	3.0	38.2	1.0	50.6	-25.0	-25.6		
7687.50	-10.5	V	3.0	36.6	1.0	46.1	-25.0	-21.1		
10250.00	-9.0	V	3.0	34.2	1.0	42.3	-25.0	-17.3		
5125.00	-13.4	H	3.0	38.2	1.0	50.7	-25.0	-25.7		
7687.50	-10.8	H	3.0	36.6	1.0	46.5	-25.0	-21.5		
10250.00	-9.2	H	3.0	34.2	1.0	42.4	-25.0	-17.4		

LTE B7 15MHz QPSK										LTE B7 15MHz 16QAM									
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Sony Project #: 16J22997 MA Date: 3/14/2016 Test Engineer: O. Stoelting Configuration: y-pos EUT + AC Charger + HS Location: Chamber A Mode: LTE_QPSK Band 7 Harmonics, 20MHz Bandwidth										UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Sony Project #: 16J22997 MA Date: 3/14/2016 Test Engineer: O. Stoelting Configuration: y-pos EUT + AC Charger + HS Location: Chamber A Mode: LTE_16QAM Band 7 Harmonics, 20MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2510										Low Ch, 2510									
5070.00	-11.9	V	3.0	38.2	1.0	49.1	25.0	-24.1		5070.00	-11.7	V	3.0	38.2	1.0	48.9	25.0	-23.9	
7530.00	-8.7	V	3.0	36.8	1.0	44.5	25.0	-19.5		7530.00	-10.0	V	3.0	36.8	1.0	45.8	25.0	-20.8	
10040.00	-4.3	V	3.0	34.6	1.0	41.9	25.0	-16.9		10040.00	-8.9	V	3.0	34.6	1.0	42.5	25.0	-17.5	
5070.00	-11.8	H	3.0	38.2	1.0	49.0	25.0	-24.0		5070.00	-12.3	H	3.0	38.2	1.0	49.5	25.0	-24.5	
7530.00	-10.5	H	3.0	36.8	1.0	46.2	25.0	-21.2		7530.00	-10.4	H	3.0	36.8	1.0	46.2	25.0	-21.2	
10040.00	-8.5	H	3.0	34.6	1.0	42.1	25.0	-17.1		10040.00	-9.1	H	3.0	34.6	1.0	42.7	25.0	-17.7	
Mid Ch, 2535										Mid Ch, 2535									
5070.00	-13.1	V	3.0	38.2	1.0	50.3	25.0	-25.3		5070.00	-12.8	V	3.0	38.2	1.0	50.0	25.0	-25.0	
7695.00	-10.2	V	3.0	36.7	1.0	45.9	25.0	-20.9		7695.00	-10.3	V	3.0	36.7	1.0	46.0	25.0	-21.0	
10140.00	-9.0	V	3.0	34.4	1.0	42.4	25.0	-17.4		10140.00	-8.6	V	3.0	34.4	1.0	42.0	25.0	-17.0	
5070.00	-13.6	H	3.0	38.2	1.0	50.8	25.0	-25.8		5070.00	-13.5	H	3.0	38.2	1.0	50.7	25.0	-25.7	
7695.00	-11.1	H	3.0	36.7	1.0	46.8	25.0	-21.8		7695.00	-10.0	H	3.0	36.7	1.0	45.7	25.0	-20.7	
10140.00	-8.8	H	3.0	34.4	1.0	42.2	25.0	-17.2		10140.00	-8.8	H	3.0	34.4	1.0	42.2	25.0	-17.2	
High Ch, 2560										High Ch, 2560									
5120.00	-13.2	V	3.0	38.2	1.0	50.4	25.0	-25.4		5120.00	-13.6	V	3.0	38.2	1.0	50.8	25.0	-25.8	
7680.00	-11.0	V	3.0	36.6	1.0	46.6	25.0	-21.6		7680.00	-10.5	V	3.0	36.6	1.0	46.1	25.0	-21.1	
10240.00	-9.4	V	3.0	34.3	1.0	42.7	25.0	-17.7		10240.00	-8.0	V	3.0	34.3	1.0	41.2	25.0	-16.2	
5120.00	-13.6	H	3.0	38.2	1.0	50.8	25.0	-25.8		5120.00	-13.4	H	3.0	38.2	1.0	50.6	25.0	-25.6	
7680.00	-11.6	H	3.0	36.6	1.0	47.2	25.0	-22.2		7680.00	-11.9	H	3.0	36.6	1.0	47.6	25.0	-22.6	
10240.00	-9.2	H	3.0	34.3	1.0	42.5	25.0	-17.5		10240.00	-8.9	H	3.0	34.3	1.0	42.2	25.0	-17.2	
LTE B7 20MHz QPSK										LTE B7 20MHz 16QAM									

LTE Band 12

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/15/2016									
Test Engineer:	O. Stoelling									
Configuration:	X-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth									
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes	
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)		
Low Ch, 699.7										
1399.40	-26.9	V	3.0	40.1	1.0	-66.0	-13.0	-47.0		
2099.10	-19.1	V	3.0	38.2	1.0	-56.2	-13.0	-43.2		
2798.80	-21.2	V	3.0	38.4	1.0	-58.6	-13.0	-45.6		
1399.40	-26.9	H	3.0	40.1	1.0	-66.0	-13.0	-53.0		
2099.10	-21.3	H	3.0	38.2	1.0	-58.4	-13.0	-45.4		
2798.80	-21.7	H	3.0	38.4	1.0	-59.1	-13.0	-46.1		
Mid Ch, 707.5										
1415.00	-25.4	V	3.0	40.0	1.0	-64.5	-13.0	-51.5		
2122.50	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2		
2830.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7		
1415.00	-25.4	H	3.0	40.0	1.0	-64.4	-13.0	-51.4		
2122.50	-21.3	H	3.0	38.2	1.0	-58.5	-13.0	-45.5		
2830.00	-20.1	H	3.0	38.4	1.0	-57.5	-13.0	-44.5		
High Ch, 715.3										
1430.60	-23.7	V	3.0	40.0	1.0	-62.7	-13.0	-49.7		
2145.90	-22.2	V	3.0	38.3	1.0	-59.4	-13.0	-46.4		
2861.20	-20.6	V	3.0	38.4	1.0	-58.0	-13.0	-45.0		
1430.60	-23.6	H	3.0	40.0	1.0	-62.6	-13.0	-49.6		
2145.90	-21.5	H	3.0	38.3	1.0	-58.7	-13.0	-45.7		
2861.20	-21.7	H	3.0	38.4	1.0	-59.1	-13.0	-46.1		

LTE B12 1.4MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/15/2016									
Test Engineer:	O. Stoelling									
Configuration:	X-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth									
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes	
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)		
Low Ch, 700.5										
1401.00	-23.7	V	3.0	40.1	1.0	-62.8	-13.0	-49.8		
2101.50	-21.8	V	3.0	38.2	1.0	-59.0	-13.0	-46.0		
2802.00	-21.4	V	3.0	38.4	1.0	-58.8	-13.0	-45.8		
1401.00	-26.5	H	3.0	40.1	1.0	-65.6	-13.0	-52.6		
2101.50	-20.7	H	3.0	38.2	1.0	-57.9	-13.0	-44.9		
2802.00	-20.5	H	3.0	38.4	1.0	-57.9	-13.0	-44.9		
Mid Ch, 707.5										
1415.00	-24.4	V	3.0	40.0	1.0	-63.4	-13.0	-50.4		
2122.50	-22.3	V	3.0	38.2	1.0	-59.5	-13.0	-46.5		
2830.00	-20.5	V	3.0	38.4	1.0	-57.9	-13.0	-44.9		
1415.00	-26.1	H	3.0	40.0	1.0	-65.2	-13.0	-52.2		
2122.50	-21.6	H	3.0	38.2	1.0	-58.8	-13.0	-45.8		
2830.00	-20.4	H	3.0	38.4	1.0	-57.8	-13.0	-44.8		
High Ch, 714.5										
1429.00	-20.0	V	3.0	40.0	1.0	-59.0	-13.0	-46.0		
2143.50	-21.4	V	3.0	38.3	1.0	-58.7	-13.0	-45.7		
2858.00	-22.1	V	3.0	38.4	1.0	-59.1	-13.0	-46.1		
1429.00	-23.2	H	3.0	40.0	1.0	-62.2	-13.0	-49.2		
2143.50	-22.4	H	3.0	38.3	1.0	-59.7	-13.0	-46.7		
2858.00	-20.9	H	3.0	38.4	1.0	-58.3	-13.0	-45.3		

LTE B12 3MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/15/2016									
Test Engineer:	O. Stoelling									
Configuration:	X-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth									
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes	
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)		
Low Ch, 701.5										
1403.00	-23.4	V	3.0	40.1	1.0	-62.5	-13.0	-49.5		
2104.50	-21.6	V	3.0	38.2	1.0	-58.7	-13.0	-45.7		
2806.00	-20.5	V	3.0	38.4	1.0	-57.9	-13.0	-44.9		
1403.00	-25.7	H	3.0	40.1	1.0	-64.8	-13.0	-51.8		
2104.50	-20.7	H	3.0	38.2	1.0	-57.9	-13.0	-44.9		
2806.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8		
Mid Ch, 707.5										
1415.00	-24.6	V	3.0	40.0	1.0	-63.6	-13.0	-50.6		
2122.50	-22.3	V	3.0	38.2	1.0	-59.5	-13.0	-46.5		
2830.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7		
1415.00	-25.8	H	3.0	40.0	1.0	-64.9	-13.0	-51.9		
2122.50	-21.0	H	3.0	38.2	1.0	-58.2	-13.0	-45.2		
2830.00	-20.9	H	3.0	38.4	1.0	-58.3	-13.0	-45.3		
High Ch, 713.5										
1427.00	-22.6	V	3.0	40.0	1.0	-61.6	-13.0	-48.6		
2140.50	-21.4	V	3.0	38.3	1.0	-58.6	-13.0	-45.6		
2854.00	-21.5	V	3.0	38.4	1.0	-58.9	-13.0	-45.9		
1427.00	-26.2	H	3.0	40.0	1.0	-65.2	-13.0	-52.2		
2140.50	-21.6	H	3.0	38.3	1.0	-58.8	-13.0	-45.8		
2854.00	-21.2	H	3.0	38.4	1.0	-58.5	-13.0	-45.5		

LTE B12 3MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:	Sony									
Project #:	16J22997 MA									
Date:	3/15/2016									
Test Engineer:	O. Stoelling									
Configuration:	X-pos EUT + AC Charger + HS									
Location:	Chamber A									
Mode:	LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth									
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes	
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)		
Low Ch, 701.5										
1403.00	-23.9	V	3.0	40.1	1.0	-63.0	-13.0	-50.0		
2104.50	-21.9	V	3.0	38.2	1.0	-59.0	-13.0	-46.0		
2806.00	-21.1	V	3.0	38.4	1.0	-58.5	-13.0	-45.5		
1403.00	-25.8	H	3.0	40.1	1.0	-64.8	-13.0	-51.8		
2104.50	-20.9	H	3.0	38.2	1.0	-58.0	-13.0	-45.0		
2806.00	-21.0	H	3.0	38.4	1.0	-58.4	-13.0	-45.4		
Mid Ch, 707.5										
1415.00	-25.3	V	3.0	40.0	1.0	-64.3	-13.0	-51.3		
2122.50	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2		
2830.00	-21.0	V	3.0	38.4	1.0	-58.4	-13.0	-45.4		
1415.00	-26.0	H	3.0	40.0	1.0	-65.1	-13.0	-52.1		
2122.50	-21.5	H	3.0	38.2	1.0	-58.7	-13.0	-45.7		
2830.00	-20.5	H	3.0	38.4	1.0	-57.9	-13.0	-44.9		
High Ch, 713.5										
1427.00	-22.7	V	3.0	40.0	1.0	-61.7	-13.0	-48.7		
2140.50	-22.4	V	3.0	38.3	1.0	-59.6	-13.0	-46.6		
2854.00	-21.5	V	3.0	38.4	1.0	-58.9	-13.0	-45.9		
1427.00	-25.9	H	3.0	40.0	1.0	-64.9	-13.0	-51.9		
2140.50	-21.4	H	3.0	38.3	1.0	-58.7	-13.0	-45.7		
2854.00	-21.7	H	3.0	38.4	1.0	-59.1	-13.0	-46.1		

LTE B12 5MHz QPSK										LTE B12 5MHz 16QAM									
UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Sony Project #: 16J22997 MA Date: 3/15/2016 Test Engineer: O. Stoelting Configuration: X-pos EUT + AC Charger + HS Location: Chamber A Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth										UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Sony Project #: 16J22997 MA Date: 3/15/2016 Test Engineer: O. Stoelting Configuration: X-pos EUT + AC Charger + HS Location: Chamber A Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth									
F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704										Low Ch, 704									
1408.00	-24.0	V	3.0	40.1	1.0	-63.1	-13.0	-50.1		1408.00	-23.8	V	3.0	40.1	1.0	-62.9	-13.0	-49.9	
2112.00	-21.8	V	3.0	38.2	1.0	-59.0	-13.0	-46.0		2112.00	-22.4	V	3.0	38.2	1.0	-59.6	-13.0	-46.6	
2816.00	-21.4	V	3.0	38.4	1.0	-58.8	-13.0	-45.8		2816.00	-21.2	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1408.00	-25.6	H	3.0	40.1	1.0	-64.7	-13.0	-51.7		1408.00	-25.9	H	3.0	40.1	1.0	-65.0	-13.0	-52.0	
2112.00	-20.9	H	3.0	38.2	1.0	-56.1	-13.0	-45.1		2112.00	-20.5	H	3.0	38.2	1.0	-57.7	-13.0	-44.7	
2816.00	-20.8	H	3.0	38.4	1.0	-58.2	-13.0	-45.2		2816.00	-21.4	H	3.0	38.4	1.0	-58.9	-13.0	-45.9	
Mid Ch, 707.5										Mid Ch, 707.5									
1415.00	-24.3	V	3.0	40.0	1.0	-63.3	-13.0	-50.3		1415.00	-24.0	V	3.0	40.0	1.0	-63.0	-13.0	-50.0	
2122.50	-21.5	V	3.0	38.2	1.0	-58.7	-13.0	-45.7		2122.50	-21.0	V	3.0	38.2	1.0	-58.2	-13.0	-45.2	
2830.00	-21.7	V	3.0	38.4	1.0	-59.1	-13.0	-46.1		2830.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1415.00	-26.4	H	3.0	40.0	1.0	-65.4	-13.0	-52.4		1415.00	-26.0	H	3.0	40.0	1.0	-65.1	-13.0	-52.1	
2122.50	-20.0	H	3.0	38.2	1.0	-57.2	-13.0	-44.2		2122.50	-20.1	H	3.0	38.2	1.0	-57.3	-13.0	-44.3	
2830.00	-21.0	H	3.0	38.4	1.0	-58.4	-13.0	-45.4		2830.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8	
High Ch, 711										High Ch, 711									
1422.00	-24.2	V	3.0	40.0	1.0	-63.2	-13.0	-50.2		1422.00	-25.2	V	3.0	40.0	1.0	-64.2	-13.0	-51.2	
2133.00	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2		2133.00	-21.5	V	3.0	38.2	1.0	-58.7	-13.0	-45.7	
2844.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7		2844.00	-21.6	V	3.0	38.4	1.0	-59.0	-13.0	-46.0	
1422.00	-26.3	H	3.0	40.0	1.0	-65.4	-13.0	-52.4		1422.00	-26.4	H	3.0	40.0	1.0	-65.5	-13.0	-52.5	
2133.00	-19.5	H	3.0	38.2	1.0	-56.8	-13.0	-43.8		2133.00	-18.3	H	3.0	38.2	1.0	-55.6	-13.0	-42.6	
2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7		2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	
LTE B12 10MHz QPSK										LTE B12 10MHz 16QAM									

LTE Band 13

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

SOMC

16J22997

03/16/16

43574 JS

EUT + AC Adapter + Headphones

Chamber C

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, 779.5									
1559.00	-24.8	V	3.0	37.1	1.0	-61.0	-13.0	-48.0	
2338.50	-18.8	V	3.0	36.5	1.0	-54.3	-13.0	-41.3	
3118.00	-16.7	V	3.0	36.3	1.0	-51.9	-13.0	-38.9	
1559.00	-25.1	H	3.0	37.1	1.0	-61.2	-13.0	-48.2	
2338.50	-20.2	H	3.0	36.5	1.0	-55.7	-13.0	-42.7	
3118.00	-17.0	H	3.0	36.3	1.0	-52.2	-13.0	-39.2	
Mid Ch, 782									
1564.00	-23.9	V	3.0	37.1	1.0	-60.0	-13.0	-47.0	
2346.00	-18.8	V	3.0	36.5	1.0	-54.3	-13.0	-41.3	
3128.00	-17.1	V	3.0	36.3	1.0	-52.4	-13.0	-39.4	
1564.00	-24.3	H	3.0	37.1	1.0	-60.5	-13.0	-47.5	
2346.00	-19.3	H	3.0	36.5	1.0	-54.8	-13.0	-41.8	
3128.00	-15.6	H	3.0	36.3	1.0	-50.9	-13.0	-37.9	
High Ch, 784.5									
1569.00	-24.7	V	3.0	37.1	1.0	-60.9	-13.0	-47.9	
2353.50	-18.7	V	3.0	36.5	1.0	-54.2	-13.0	-41.2	
3138.00	-17.1	V	3.0	36.3	1.0	-52.4	-13.0	-39.4	
1569.00	-24.7	H	3.0	37.1	1.0	-60.8	-13.0	-47.8	
2353.50	-20.1	H	3.0	36.5	1.0	-55.5	-13.0	-42.5	
3138.00	-17.2	H	3.0	36.3	1.0	-52.5	-13.0	-39.5	

LTE B13 5MHz QPSK

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

SOMC

16J22997

03/16/16

43574 JS

EUT + AC Adapter + Headphones

Chamber C

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, 779.5									
1559.00	-25.0	V	3.0	37.1	1.0	-61.1	-13.0	-48.1	
2338.50	-19.2	V	3.0	36.5	1.0	-54.7	-13.0	-41.7	
3118.00	-16.8	V	3.0	36.3	1.0	-52.1	-13.0	-39.1	
1559.00	-25.1	H	3.0	37.1	1.0	-61.2	-13.0	-48.2	
2338.50	-20.7	H	3.0	36.5	1.0	-56.2	-13.0	-43.2	
3118.00	-17.2	H	3.0	36.3	1.0	-52.5	-13.0	-39.5	
Mid Ch, 782									
1564.00	-24.0	V	3.0	37.1	1.0	-60.2	-13.0	-47.2	
2346.00	-18.9	V	3.0	36.5	1.0	-54.3	-13.0	-41.3	
3128.00	-17.1	V	3.0	36.3	1.0	-52.3	-13.0	-39.3	
1564.00	-24.6	H	3.0	37.1	1.0	-60.8	-13.0	-47.8	
2346.00	-19.6	H	3.0	36.5	1.0	-55.1	-13.0	-42.1	
3128.00	-15.6	H	3.0	36.3	1.0	-50.9	-13.0	-37.9	
High Ch, 784.5									
1569.00	-24.8	V	3.0	37.1	1.0	-60.9	-13.0	-47.9	
2353.50	-18.8	V	3.0	36.5	1.0	-54.3	-13.0	-41.3	
3138.00	-17.5	V	3.0	36.3	1.0	-52.8	-13.0	-39.8	
1569.00	-24.9	H	3.0	37.1	1.0	-61.1	-13.0	-48.1	
2353.50	-20.2	H	3.0	36.5	1.0	-55.7	-13.0	-42.7	
3138.00	-17.6	H	3.0	36.3	1.0	-52.9	-13.0	-39.9	

LTE B13 5MHz 16QAM

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

SOMC

16J22997

03/16/16

43574 JS

EUT + AC Adapter + Headphones

Chamber C

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
Mid Ch, 782									
1564.00	-25.0	V	3.0	37.1	1.0	-61.1	-13.0	-48.1	
2346.00	-19.0	V	3.0	36.5	1.0	-54.5	-13.0	-41.5	
3128.00	-17.3	V	3.0	36.3	1.0	-52.6	-13.0	-39.6	
1564.00	-24.5	H	3.0	37.1	1.0	-60.6	-13.0	-47.6	
2346.00	-19.9	H	3.0	36.5	1.0	-55.4	-13.0	-42.4	
3128.00	-17.3	H	3.0	36.3	1.0	-52.5	-13.0	-39.5	

LTE B13 10MHz QPSK

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

SOMC

16J22997

03/16/16

43574 JS

EUT + AC Adapter + Headphones

Chamber C

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
Mid Ch, 782									
1564.00	-25.2	V	3.0	37.1	1.0	-61.4	-13.0	-48.4	
2346.00	-19.2	V	3.0	36.5	1.0	-54.6	-13.0	-41.6	
3128.00	-17.6	V	3.0	36.3	1.0	-52.9	-13.0	-39.9	
1564.00	-24.9	H	3.0	37.1	1.0	-61.0	-13.0	-48.0	
2346.00	-20.3	H	3.0	36.5	1.0	-55.8	-13.0	-42.8	
3128.00	-17.5	H	3.0	36.3	1.0	-52.8	-13.0	-39.8	

LTE B13 10MHz 16QAM

LTE Band 17

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_QPSK Band 17 Harmonics, 5MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5									
1413.00	-23.5	V	3.0	40.0	1.0	-62.5	-13.0	-48.5	
2115.50	-21.6	V	3.0	38.2	1.0	-58.8	-13.0	-45.8	
2826.00	-20.5	V	3.0	38.4	1.0	-57.9	-13.0	-44.9	
1413.00	-25.8	H	3.0	40.0	1.0	-64.8	-13.0	-51.8	
2115.50	-20.8	H	3.0	38.2	1.0	-58.0	-13.0	-45.0	
2826.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	
Mid Ch, 710									
1420.00	-24.6	V	3.0	40.0	1.0	-63.6	-13.0	-50.6	
2130.00	-22.3	V	3.0	38.2	1.0	-59.5	-13.0	-46.5	
2840.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1420.00	-25.9	H	3.0	40.0	1.0	-64.9	-13.0	-51.9	
2130.00	-21.0	H	3.0	38.2	1.0	-58.2	-13.0	-45.2	
2840.00	-20.8	H	3.0	38.4	1.0	-58.2	-13.0	-45.2	
High Ch, 713.5									
1427.00	-22.6	V	3.0	40.0	1.0	-61.6	-13.0	-48.6	
2140.50	-21.4	V	3.0	38.3	1.0	-58.6	-13.0	-45.6	
2854.00	-21.5	V	3.0	38.4	1.0	-58.9	-13.0	-45.9	
1427.00	-26.2	H	3.0	40.0	1.0	-65.2	-13.0	-52.2	
2140.50	-21.6	H	3.0	38.3	1.0	-58.8	-13.0	-45.8	
2854.00	-21.2	H	3.0	38.4	1.0	-58.5	-13.0	-45.5	

LTE B17 5MHz QPSK

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_QPSK Band 17 Harmonics, 5MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5									
1413.00	-23.9	V	3.0	40.0	1.0	-63.0	-13.0	-50.0	
2115.50	-21.9	V	3.0	38.2	1.0	-59.1	-13.0	-46.1	
2826.00	-21.1	V	3.0	38.4	1.0	-58.5	-13.0	-45.5	
1413.00	-25.8	H	3.0	40.0	1.0	-64.9	-13.0	-51.9	
2115.50	-20.9	H	3.0	38.2	1.0	-58.1	-13.0	-45.1	
2826.00	-21.0	H	3.0	38.4	1.0	-58.4	-13.0	-45.4	
Mid Ch, 710									
1420.00	-25.3	V	3.0	40.0	1.0	-64.3	-13.0	-51.3	
2130.00	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2	
2840.00	-21.0	V	3.0	38.4	1.0	-58.4	-13.0	-45.4	
1420.00	-26.0	H	3.0	40.0	1.0	-65.1	-13.0	-52.1	
2130.00	-21.5	H	3.0	38.2	1.0	-58.7	-13.0	-45.7	
2840.00	-20.5	H	3.0	38.4	1.0	-57.9	-13.0	-44.9	
High Ch, 713.5									
1427.00	-22.7	V	3.0	40.0	1.0	-61.7	-13.0	-48.7	
2140.50	-22.4	V	3.0	38.3	1.0	-59.6	-13.0	-46.6	
2854.00	-21.5	V	3.0	38.4	1.0	-58.9	-13.0	-45.9	
1427.00	-25.9	H	3.0	40.0	1.0	-64.9	-13.0	-51.9	
2140.50	-21.4	H	3.0	38.3	1.0	-58.7	-13.0	-45.7	
2854.00	-21.7	H	3.0	38.4	1.0	-59.1	-13.0	-46.1	

LTE B17 5MHz 16QAM

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_QPSK Band 17 Harmonics, 10MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-24.0	V	3.0	40.0	1.0	-62.9	-13.0	-49.9	
2127.00	-21.8	V	3.0	38.2	1.0	-59.6	-13.0	-46.6	
2836.00	-21.4	V	3.0	38.4	1.0	-58.8	-13.0	-45.8	
1418.00	-25.7	H	3.0	40.0	1.0	-64.7	-13.0	-51.7	
2127.00	-20.9	H	3.0	38.2	1.0	-58.3	-13.0	-45.3	
2836.00	-20.7	H	3.0	38.4	1.0	-58.1	-13.0	-45.1	
Mid Ch, 710									
1420.00	-24.3	V	3.0	40.0	1.0	-63.3	-13.0	-50.3	
2130.00	-21.5	V	3.0	38.2	1.0	-58.8	-13.0	-45.8	
2840.00	-21.7	V	3.0	38.4	1.0	-59.1	-13.0	-46.1	
1420.00	-26.4	H	3.0	40.0	1.0	-65.4	-13.0	-52.4	
2130.00	-20.0	H	3.0	38.2	1.0	-57.3	-13.0	-44.3	
2840.00	-20.0	H	3.0	38.4	1.0	-58.3	-13.0	-45.3	
High Ch, 711									
1422.00	-24.2	V	3.0	40.0	1.0	-63.2	-13.0	-50.2	
2133.00	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2	
2844.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1422.00	-26.3	H	3.0	40.0	1.0	-65.4	-13.0	-52.4	
2133.00	-21.5	H	3.0	38.2	1.0	-58.8	-13.0	-45.8	
2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	

LTE B17 10MHz QPSK

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_QPSK Band 17 Harmonics, 10MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-23.8	V	3.0	40.0	1.0	-62.9	-13.0	-49.9	
2127.00	-22.4	V	3.0	38.2	1.0	-59.6	-13.0	-46.6	
2836.00	-21.2	V	3.0	38.4	1.0	-58.6	-13.0	-45.6	
1418.00	-25.9	H	3.0	40.0	1.0	-65.0	-13.0	-52.0	
2127.00	-20.6	H	3.0	38.2	1.0	-57.8	-13.0	-44.8	
2836.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8	
Mid Ch, 710									
1420.00	-24.0	V	3.0	40.0	1.0	-63.0	-13.0	-50.0	
2130.00	-21.0	V	3.0	38.2	1.0	-58.2	-13.0	-45.2	
2840.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1420.00	-26.1	H	3.0	40.0	1.0	-65.1	-13.0	-52.1	
2130.00	-20.1	H	3.0	38.2	1.0	-57.4	-13.0	-44.4	
2840.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8	
High Ch, 711									
1422.00	-25.2	V	3.0	40.0	1.0	-64.2	-13.0	-51.2	
2133.00	-21.5	V	3.0	38.2	1.0	-58.7	-13.0	-45.7	
2844.00	-21.6	V	3.0	38.4	1.0	-59.0	-13.0	-46.0	
1422.00	-26.4	H	3.0	40.0	1.0	-65.5	-13.0	-52.5	
2133.00	-21.3	H	3.0	38.2	1.0	-58.6	-13.0	-45.6	
2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	

LTE B17 10MHz 16QAM

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_16QAM Band 17 Harmonics, 5MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5									
1413.00	-23.9	V	3.0	40.0	1.0	-63.0	-13.0	-50.0	
2115.50	-21.9	V	3.0	38.2	1.0	-59.1	-13.0	-46.1	
2826.00	-21.1	V	3.0	38.4	1.0	-58.5	-13.0	-45.5	
1413.00	-25.8	H	3.0	40.0	1.0	-64.9	-13.0	-51.9	
2115.50	-20.9	H	3.0	38.2	1.0	-58.1	-13.0	-45.1	
2826.00	-21.0	H	3.0	38.4	1.0	-58.4	-13.0	-45.4	
Mid Ch, 710									
1420.00	-25.3	V	3.0	40.0	1.0	-64.3	-13.0	-51.3	
2130.00	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2	
2840.00	-21.0	V	3.0	38.4	1.0	-58.4	-13.0	-45.4	
1420.00	-26.0	H	3.0	40.0	1.0	-65.1	-13.0	-52.1	
2130.00	-19.5	H	3.0	38.2	1.0	-56.7	-13.0	-43.7	
2840.00	-20.5	H	3.0	38.4	1.0	-57.9	-13.0	-44.9	
High Ch, 713.5									
1427.00	-22.7	V	3.0	40.0	1.0	-61.7	-13.0	-48.7	
2140.50	-22.4	V	3.0	38.3	1.0	-59.6	-13.0	-46.6	
2854.00	-21.5	V	3.0	38.4	1.0	-58.9	-13.0	-45.9	
1427.00	-25.9	H	3.0	40.0	1.0	-64.9	-13.0	-51.9	
2140.50	-21.4	H	3.0	38.3	1.0	-58.7	-13.0	-45.7	
2854.00	-21.7	H	3.0	38.4	1.0	-59.1	-13.0	-46.1	

LTE B17 5MHz 16QAM

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_QPSK Band 17 Harmonics, 10MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-24.0	V	3.0	40.0	1.0	-63.1	-13.0	-50.1	
2127.00	-21.8	V	3.0	38.2	1.0	-59.0	-13.0	-46.0	
2836.00	-21.4	V	3.0	38.4	1.0	-58.8	-13.0	-45.8	
1418.00	-25.7	H	3.0	40.0	1.0	-64.7	-13.0	-51.7	
2127.00	-20.9	H	3.0	38.2	1.0	-58.2	-13.0	-45.2	
2836.00	-20.7	H	3.0	38.4	1.0	-58.1	-13.0	-45.1	
Mid Ch, 710									
1420.00	-24.3	V	3.0	40.0	1.0	-63.3	-13.0	-50.3	
2130.00	-21.5	V	3.0	38.2	1.0	-59.1	-13.0	-46.1	
2840.00	-21.7	V	3.0	38.4	1.0	-59.1	-13.0	-46.1	
1420.00	-26.4	H	3.0	40.0	1.0	-65.4	-13.0	-52.4	
2130.00	-20.0	H	3.0	38.2	1.0	-57.3	-13.0	-44.3	
2840.00	-20.9	H	3.0	38.4	1.0	-58.3	-13.0	-45.3	
High Ch, 711									
1422.00	-24.2	V	3.0	40.0	1.0	-63.2	-13.0	-50.2	
2133.00	-22.0	V	3.0	38.2	1.0	-59.2	-13.0	-46.2	
2844.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1422.00	-26.3	H	3.0	40.0	1.0	-65.4	-13.0	-52.4	
2133.00	-19.5	H	3.0	38.2	1.0	-56.8	-13.0	-43.8	
2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	

LTE B17 10MHz QPSK

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

Company: Sony
Project #: 16J22997 MA
Date: 3/15/2016
Test Engineer: O. Stoelling
Configuration: X-pos EUT + AC Charger + HS
Location: Chamber A
Mode: LTE_16QAM Band 17 Harmonics, 10MHz Bandwidth

F MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-23.8	V	3.0	40.0	1.0	-62.9	-13.0	-49.9	
2127.00	-22.4	V	3.0	38.2	1.0	-59.6	-13.0	-46.6	
2836.00	-21.2	V	3.0	38.4	1.0	-58.6	-13.0	-45.6	
1418.00	-25.9	H	3.0	40.0	1.0	-65.0	-13.0	-52.0	
2127.00	-20.6	H	3.0	38.2	1.0	-57.8	-13.0	-44.8	
2836.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8	
Mid Ch, 710									
1420.00	-24.0	V	3.0	40.0	1.0	-63.0	-13.0	-50.0	
2130.00	-21.0	V	3.0	38.2	1.0	-58.2	-13.0	-45.2	
2840.00	-21.3	V	3.0	38.4	1.0	-58.7	-13.0	-45.7	
1420.00	-26.1	H	3.0	40.0	1.0	-65.1	-13.0	-52.1	
2130.00	-20.1	H	3.0	38.2	1.0	-57.4	-13.0	-44.4	
2840.00	-21.4	H	3.0	38.4	1.0	-58.8	-13.0	-45.8	
High Ch, 711									
1422.00	-25.2	V	3.0	40.0	1.0	-64.2	-13.0	-51.2	
2133.00	-21.5	V	3.0	38.2	1.0	-58.7	-13.0	-45.7	
2844.00	-21.6	V	3.0	38.4	1.0	-59.0	-13.0	-46.0	
1422.00	-26.4	H	3.0	40.0	1.0	-65.5	-13.0	-52.5	
2133.00	-18.3	H	3.0	38.2	1.0	-55.6	-13.0	-42.6	
2844.00	-21.3	H	3.0	38.4	1.0	-58.7	-13.0	-45.7	

LTE Band 41

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2498.5										
4997.00	-11.4	V	3.0	38.1	1.0	48.6	25.0	23.6		
7495.50	-9.8	V	3.0	36.8	1.0	45.6	25.0	20.6		
9994.00	-9.4	V	3.0	34.7	1.0	43.1	25.0	18.1		
4997.00	-11.6	H	3.0	38.1	1.0	48.7	25.0	23.7		
7495.50	-10.5	H	3.0	36.8	1.0	46.3	25.0	21.3		
9994.00	-8.5	H	3.0	34.7	1.0	42.1	25.0	17.1		
Mid Ch, 2593										
5186.00	-12.7	V	3.0	38.3	1.0	50.0	25.0	25.0		
7779.00	-10.4	V	3.0	36.6	1.0	46.0	25.0	21.0		
10372.00	-8.4	V	3.0	34.0	1.0	41.5	25.0	16.5		
5186.00	-12.8	H	3.0	38.3	1.0	50.1	25.0	25.1		
7779.00	-11.0	H	3.0	36.6	1.0	46.6	25.0	21.6		
10372.00	-6.9	H	3.0	34.0	1.0	39.9	25.0	14.9		
High Ch, 2687.5										
5375.00	-13.6	V	3.0	38.2	1.0	50.8	25.0	25.8		
8062.50	-9.2	V	3.0	36.3	1.0	44.6	25.0	19.6		
10750.00	-7.7	V	3.0	33.4	1.0	40.1	25.0	15.1		
5375.00	-13.0	H	3.0	38.2	1.0	50.2	25.0	25.2		
8062.50	-10.2	H	3.0	36.3	1.0	45.5	25.0	20.5		
10750.00	-7.0	H	3.0	33.4	1.0	39.4	25.0	14.4		

LTE B41 5MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2591										
5002.00	-11.4	V	3.0	38.2	1.0	48.6	25.0	23.6		
7503.00	-10.5	V	3.0	36.8	1.0	46.3	25.0	21.3		
10004.00	-9.6	V	3.0	34.7	1.0	43.3	25.0	18.3		
5002.00	-11.8	H	3.0	38.2	1.0	49.0	25.0	24.0		
7503.00	-11.2	H	3.0	36.8	1.0	47.0	25.0	22.0		
10004.00	-9.5	H	3.0	34.7	1.0	43.2	25.0	18.2		
Mid Ch, 2593										
5186.00	-10.5	V	3.0	38.3	1.0	47.8	25.0	22.8		
7779.00	-10.6	V	3.0	36.6	1.0	46.2	25.0	21.2		
10372.00	-8.7	V	3.0	34.0	1.0	41.7	25.0	16.7		
5186.00	-10.9	H	3.0	38.3	1.0	48.2	25.0	23.2		
7779.00	-11.3	H	3.0	36.6	1.0	46.8	25.0	21.8		
10372.00	-8.4	H	3.0	34.0	1.0	41.5	25.0	16.5		
High Ch, 2685										
5370.00	-13.7	V	3.0	38.2	1.0	50.9	25.0	25.9		
8055.00	-9.2	V	3.0	36.3	1.0	44.6	25.0	19.6		
10740.00	-7.2	V	3.0	33.4	1.0	39.6	25.0	14.6		
5370.00	-13.2	H	3.0	38.2	1.0	50.4	25.0	25.4		
8055.00	-10.2	H	3.0	36.3	1.0	45.5	25.0	20.5		
10740.00	-7.4	H	3.0	33.4	1.0	39.8	25.0	14.8		

LTE B41 10MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2593.5										
5007.00	-12.0	V	3.0	38.2	1.0	49.2	25.0	24.2		
7510.50	-9.6	V	3.0	36.8	1.0	45.4	25.0	20.4		
10014.00	-9.3	V	3.0	34.6	1.0	43.0	25.0	18.0		
5007.00	-12.3	H	3.0	38.2	1.0	49.4	25.0	24.4		
7510.50	-11.7	H	3.0	36.8	1.0	47.5	25.0	22.5		
10014.00	-7.6	H	3.0	34.6	1.0	41.3	25.0	16.3		
Mid Ch, 2593										
5186.00	-12.1	V	3.0	38.3	1.0	49.4	25.0	24.4		
7779.00	-10.6	V	3.0	36.6	1.0	46.2	25.0	21.2		
10372.00	-8.6	V	3.0	34.0	1.0	41.7	25.0	16.7		
5186.00	-12.6	H	3.0	38.3	1.0	49.9	25.0	24.9		
7779.00	-10.5	H	3.0	36.6	1.0	46.1	25.0	21.1		
10372.00	-8.9	H	3.0	34.0	1.0	42.0	25.0	17.0		
High Ch, 2682.5										
5365.00	-13.1	V	3.0	38.2	1.0	50.3	25.0	25.3		
8047.50	-9.6	V	3.0	36.3	1.0	44.9	25.0	19.9		
10730.00	-7.3	V	3.0	33.4	1.0	39.7	25.0	14.7		
5365.00	-12.8	H	3.0	38.2	1.0	50.0	25.0	25.0		
8047.50	-10.9	H	3.0	36.3	1.0	46.2	25.0	21.2		
10730.00	-6.6	H	3.0	33.4	1.0	39.0	25.0	14.0		

LTE B41 15MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_16QAM Band 41 Harmonics, 5MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2498.5										
4997.00	-12.1	V	3.0	38.1	1.0	49.3	25.0	24.3		
7495.50	-9.8	V	3.0	36.8	1.0	45.6	25.0	20.6		
9994.00	-8.7	V	3.0	34.7	1.0	42.4	25.0	17.4		
4997.00	-12.1	H	3.0	38.1	1.0	49.3	25.0	24.3		
7495.50	-10.4	H	3.0	36.8	1.0	46.2	25.0	21.2		
9994.00	-9.4	H	3.0	34.7	1.0	43.1	25.0	18.1		
Mid Ch, 2593										
5186.00	-12.4	V	3.0	38.3	1.0	49.7	25.0	24.7		
7779.00	-10.6	V	3.0	36.6	1.0	46.2	25.0	21.2		
10372.00	-7.9	V	3.0	34.0	1.0	41.0	25.0	16.0		
5186.00	-11.6	H	3.0	38.3	1.0	48.9	25.0	23.9		
7779.00	-10.1	H	3.0	36.6	1.0	45.7	25.0	20.7		
10372.00	-8.4	H	3.0	34.0	1.0	41.4	25.0	16.4		
High Ch, 2687.5										
5375.00	-12.4	V	3.0	38.2	1.0	49.6	25.0	24.6		
8062.50	-9.8	V	3.0	36.3	1.0	45.1	25.0	20.1		
10750.00	-7.7	V	3.0	33.4	1.0	40.1	25.0	15.1		
5375.00	-12.5	H	3.0	38.2	1.0	49.6	25.0	24.6		
8062.50	-9.4	H	3.0	36.3	1.0	44.8	25.0	19.8		
10750.00	-7.2	H	3.0	33.4	1.0	39.7	25.0	14.7		

LTE B41 5MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2591										
5002.00	-11.9	V	3.0	38.2	1.0	49.0	25.0	24.0		
7503.00	-10.5	V	3.0	36.8	1.0	46.3	25.0	21.3		
10004.00	-8.7	V	3.0	34.7	1.0	42.4	25.0	17.4		
5002.00	-12.0	H	3.0	38.2	1.0	49.1	25.0	24.1		
7503.00	-10.9	H	3.0	36.8	1.0	47.0	25.0	22.0		
10004.00	-9.4	H	3.0	34.7	1.0	43.1	25.0	18.1		
Mid Ch, 2593										
5186.00	-12.7	V	3.0	38.3	1.0	50.0	25.0	25.0		
7779.00	-10.4	V	3.0	36.6	1.0	45.9	25.0	20.9		
10372.00	-7.3	V	3.0	34.0	1.0	40.3	25.0	15.3		
5186.00	-12.0	H	3.0	38.3	1.0	49.3	25.0	24.3		
7779.00	-11.2	H	3.0	36.6	1.0	46.8	25.0	21.8		
10372.00	-7.8	H	3.0	34.0	1.0	40.8	25.0	15.8		
High Ch, 2685										
5370.00	-12.7	V	3.0	38.2	1.0	49.9	25.0	24.9		
8055.00	-9.2	V	3.0	36.3	1.0	44.5	25.0	19.5		
10740.00	-7.0	V	3.0	33.4	1.0	40.3	25.0	15.3		
5370.00	-13.1	H	3.0	38.2	1.0	50.2	25.0	25.2		
8055.00	-10.4	H	3.0	36.3	1.0	45.8	25.0	20.8		
10740.00	-6.5	H	3.0	33.4	1.0	39.8	25.0	13.9		

LTE B41 10MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company: Sony										
Project #: 16J22997 MA										
Date: 3/14/2016										
Test Engineer: O. Stoeltig										
Configuration: y-pos EUT + AC Charger + HS										
Location: Chamber A										
Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth										
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	
Low Ch, 2593.5										
5007.00	-11.6	V	3.0	38.2	1.0	49.7	25.0	24.7		
7510.50	-9.5	V	3.0	36.8	1.0	45.3	25.0	20.3		
10014.00	-8.7	V	3.0	34.6	1.0	42.3	25.0	17.3		
5007.00	-13.7	H	3.0	38.2	1.0	50.9	25.0	25.9		
7510.50	-8.6	H	3.0	36.8	1.0	44.4	25.0	19.4		
10014.00	-8.8	H	3.0	34.6	1.0	42.4	25.0	17.4		
Mid Ch, 2593										
5186.00	-11.9	V	3.0	38.3	1.0	49.2	25.0	24.2		
7779.00	-10.8	V	3.0	36.6	1.0	46.3	25.0	21.3		
10372.00	-8.7	V	3.0	34.0	1.0	41.8	25.0	16.8		
5186.00	-12.0	H	3.0	38.3	1.0	49.3	25.0	24.3		
7779.00	-11.1	H	3.0	36.6	1.0	46.6	25.0	21.6		
10372.00	-8.9	H	3.0	34.0	1.0	42.0	25.0	17.0		
High Ch, 2682.5										
5365.00	-13.8	V	3.0	38.2	1.0	51.0	25.0	26.0		
8047.50	-7.8	V	3.0	36.3	1.0	44.7	25.0	19.7		
10730.00	-7.8	V	3.0	33.4	1.0	40.2	25.0	15.2		
5365.00	-13.9	H	3.0	38.2	1.0	51.1	25.0	26.1		
8047.50	-10.9	H	3.0	36.3	1.0	46.2	25.0	21.2		
10730.00	-7.3	H	3.0	33.4	1.0	39.7	25.0	14.7		

LTE B41 15MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Sony							
Project #:		16J22997 MA							
Date:		3/14/2016							
Test Engineer:		O. Stelling							
Configuration:		y-pos EUT + AC Charger + HS							
Location:		Chamber A							
Mode:		LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth							
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 2506									
5012.00	-10.7	V	3.0	38.2	1.0	47.8	-25.0	-22.8	
7518.00	-10.2	V	3.0	36.8	1.0	46.0	-25.0	-21.0	
10024.00	-9.9	V	3.0	34.6	1.0	42.6	-25.0	-17.6	
5012.00	-11.7	H	3.0	38.2	1.0	48.9	-25.0	-23.9	
7518.00	-10.6	H	3.0	36.8	1.0	46.4	-25.0	-21.4	
10024.00	-8.9	H	3.0	34.6	1.0	42.5	-25.0	-17.5	
Mid Ch, 2593									
5186.00	-11.6	V	3.0	38.3	1.0	48.8	-25.0	-23.8	
7779.00	-10.2	V	3.0	36.6	1.0	45.8	-25.0	-20.8	
10372.00	-8.2	V	3.0	34.0	1.0	41.2	-25.0	-16.2	
5186.00	-12.5	H	3.0	38.3	1.0	49.8	-25.0	-24.8	
7779.00	-9.6	H	3.0	36.6	1.0	45.2	-25.0	-20.2	
10372.00	-8.8	H	3.0	34.0	1.0	41.8	-25.0	-16.8	
High Ch, 2680									
5360.00	-14.0	V	3.0	38.2	1.0	51.2	-25.0	-26.2	
8040.00	-9.7	V	3.0	36.3	1.0	45.0	-25.0	-20.0	
10720.00	-7.2	V	3.0	33.5	1.0	39.7	-25.0	-14.7	
5360.00	-13.6	H	3.0	38.2	1.0	50.8	-25.0	-25.8	
8040.00	-10.7	H	3.0	36.3	1.0	46.0	-25.0	-21.0	
10720.00	-7.3	H	3.0	33.5	1.0	39.8	-25.0	-14.8	

LTE B41 20MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Sony							
Project #:		16J22997 MA							
Date:		3/14/2016							
Test Engineer:		O. Stelling							
Configuration:		y-pos EUT + AC Charger + HS							
Location:		Chamber A							
Mode:		LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth							
f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 2506									
5012.00	-12.6	V	3.0	38.2	1.0	49.7	-25.0	-24.7	
7518.00	-10.2	V	3.0	36.8	1.0	45.9	-25.0	-20.9	
10024.00	-9.2	V	3.0	34.6	1.0	42.9	-25.0	-17.9	
5012.00	-11.5	H	3.0	38.2	1.0	48.7	-25.0	-23.7	
7518.00	-10.9	H	3.0	36.8	1.0	46.7	-25.0	-21.7	
10024.00	-9.3	H	3.0	34.6	1.0	42.9	-25.0	-17.9	
Mid Ch, 2593									
5186.00	-12.7	V	3.0	38.3	1.0	50.0	-25.0	-25.0	
7779.00	-9.6	V	3.0	36.6	1.0	45.2	-25.0	-20.2	
10372.00	-7.9	V	3.0	34.0	1.0	40.9	-25.0	-15.9	
5186.00	-12.4	H	3.0	38.3	1.0	49.6	-25.0	-24.6	
7779.00	-11.3	H	3.0	36.6	1.0	46.9	-25.0	-21.9	
10372.00	-8.7	H	3.0	34.0	1.0	41.8	-25.0	-16.8	
High Ch, 2680									
5360.00	-13.7	V	3.0	38.2	1.0	50.9	-25.0	-25.9	
8040.00	-9.5	V	3.0	36.3	1.0	44.9	-25.0	-19.9	
10720.00	-7.1	V	3.0	33.5	1.0	39.5	-25.0	-14.5	
5360.00	-12.3	H	3.0	38.2	1.0	49.5	-25.0	-24.5	
8040.00	-10.1	H	3.0	36.3	1.0	45.4	-25.0	-20.4	
10720.00	-7.9	H	3.0	33.5	1.0	40.4	-25.0	-15.4	

LTE B41 20MHz 16QAM