UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	8.67	V	0.5	8.6	16.74	30.0	-13.3	
1710.70	12.36	H	0.5	8.6	20.43	30.0	-9.6	
Mid Ch								
1732.50	9.23	V	0.5	8.6	17.28	30.0	-12.7	
1732.50	12.72	H	0.5	8.6	20.78	30.0	-9.2	
High Ch								
1754.30	8.58	V	0.5	8.6	16.65	30.0	-13.4	
1754.30	13.13	H	0.5	8.6	21.20	30.0	-8.8	

LTE B4 1.4MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 1.4MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1710.70	6.18	V	0.5	8.6	14.25	30.0	-15.7	
1710.70	10.40	H	0.5	8.6	18.47	30.0	-11.5	
Mid Ch								
1732.50	8.50	V	0.5	8.6	16.55	30.0	-13.4	
1732.50	12.41	H	0.5	8.6	20.47	30.0	-9.5	
High Ch								
1754.30	8.58	V	0.5	8.6	16.65	30.0	-13.4	
1754.30	12.98	H	0.5	8.6	21.05	30.0	-9.0	

LTE B4 1.4MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	7.48	V	0.5	8.6	15.55	30.0	-14.4	
1711.50	11.66	H	0.5	8.6	19.73	30.0	-10.3	
Mid Ch								
1732.50	7.74	V	0.5	8.6	15.79	30.0	-14.2	
1732.50	13.27	H	0.5	8.6	21.33	30.0	-8.7	
High Ch								
1753.50	9.52	V	0.5	8.6	17.59	30.0	-12.4	
1753.50	13.65	H	0.5	8.6	21.72	30.0	-8.3	

LTE B4 3MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	6.70	V	0.5	8.6	14.77	30.0	-15.2	
1711.50	10.90	H	0.5	8.6	18.97	30.0	-11.0	
Mid Ch								
1732.50	6.96	V	0.5	8.6	15.01	30.0	-15.0	
1732.50	12.37	H	0.5	8.6	20.43	30.0	-9.6	
High Ch								
1753.50	8.68	V	0.5	8.6	16.75	30.0	-13.3	
1753.50	12.80	H	0.5	8.6	20.87	30.0	-9.1	

LTE B4 3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	8.01	V	0.5	8.6	16.08	30.0	-13.9	
1712.50	11.83	H	0.5	8.6	19.90	30.0	-10.1	
Mid Ch								
1732.50	9.09	V	0.5	8.6	17.14	30.0	-12.9	
1732.50	12.28	H	0.5	8.6	20.34	30.0	-9.7	
High Ch								
1752.50	9.62	V	0.5	8.6	17.68	30.0	-12.3	
1752.50	13.48	H	0.5	8.6	21.55	30.0	-8.5	

LTE B4 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.50	7.29	V	0.5	8.6	15.36	30.0	-14.6	
1712.50	10.92	H	0.5	8.6	18.99	30.0	-11.0	
Mid Ch								
1732.50	8.38	V	0.5	8.6	16.43	30.0	-13.6	
1732.50	11.45	H	0.5	8.6	19.51	30.0	-10.5	
High Ch								
1752.50	8.75	V	0.5	8.6	16.81	30.0	-13.2	
1752.50	12.80	H	0.5	8.6	20.87	30.0	-9.1	

LTE B4 5MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	8.20	V	0.5	8.6	16.27	30.0	-13.7	
1715.00	10.93	H	0.5	8.6	19.00	30.0	-11.0	
Mid Ch								
1732.50	0.53	V	0.5	8.6	8.58	30.0	-21.4	
1732.50	12.45	H	0.5	8.6	20.51	30.0	-9.5	
High Ch								
1750.00	8.12	V	0.5	8.6	16.19	30.0	-13.8	
1750.00	12.48	H	0.5	8.6	20.56	30.0	-9.4	

LTE B4 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	7.39	V	0.5	8.6	15.46	30.0	-14.5	
1715.00	10.13	H	0.5	8.6	18.20	30.0	-11.8	
Mid Ch								
1732.50	-0.37	V	0.5	8.6	7.68	30.0	-22.3	
1732.50	11.52	H	0.5	8.6	19.58	30.0	-10.4	
High Ch								
1750.00	7.42	V	0.5	8.6	15.49	30.0	-14.5	
1750.00	11.66	H	0.5	8.6	19.74	30.0	-10.3	

LTE B4 10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	6.86	V	0.5	8.6	14.92	30.0	-15.1	
1717.50	11.74	H	0.5	8.6	19.80	30.0	-10.2	
Mid Ch								
1732.50	8.32	V	0.5	8.6	16.37	30.0	-13.6	
1732.50	13.24	H	0.5	8.6	21.30	30.0	-8.7	
High Ch								
1747.50	8.53	V	0.5	8.6	16.62	30.0	-13.4	
1747.50	12.61	H	0.5	8.6	20.70	30.0	-9.3	

LTE B4 15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	6.08	V	0.5	8.6	14.14	30.0	-15.9	
1717.50	10.82	H	0.5	8.6	18.88	30.0	-11.1	
Mid Ch								
1732.50	7.45	V	0.5	8.6	15.50	30.0	-14.5	
1732.50	12.26	H	0.5	8.6	20.32	30.0	-9.7	
High Ch								
1747.50	7.62	V	0.5	8.6	15.71	30.0	-14.3	
1747.50	11.90	H	0.5	8.6	19.99	30.0	-10.0	

LTE B4 15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	8.59	V	0.6	8.6	16.64	30.0	-13.4	
1720.00	10.92	H	0.6	8.6	18.97	30.0	-11.0	
Mid Ch								
1732.50	-0.33	V	0.5	8.6	7.72	30.0	-22.3	
1732.50	13.03	H	0.5	8.6	21.09	30.0	-8.9	
High Ch								
1745.00	1.32	V	0.5	8.6	9.41	30.0	-20.6	
1745.00	12.71	H	0.5	8.6	20.81	30.0	-9.2	

LTE B4 20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T59, 6ft N-type Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1720.00	7.79	V	0.6	8.6	15.84	30.0	-14.2	
1720.00	10.11	H	0.6	8.6	18.16	30.0	-11.8	
Mid Ch								
1732.50	-1.07	V	0.5	8.6	6.98	30.0	-23.0	
1732.50	12.45	H	0.5	8.6	20.51	30.0	-9.5	
High Ch								
1745.00	0.53	V	0.5	8.6	8.62	30.0	-21.4	
1745.00	11.99	H	0.5	8.6	20.09	30.0	-9.9	

LTE B4 20MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
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LTE Band 5

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
1.4	QPSK	1/0	824.7	19.03	79.98
		1/0	836.5	19.71	93.54
		1/0	848.3	19.41	87.30
	16QAM	1/0	824.7	17.89	61.52
		1/0	836.5	18.61	72.61
		1/0	848.3	18.34	68.23
3	QPSK	1/0	825.5	19.01	79.62
		1/0	836.5	19.46	88.31
		1/0	847.5	19.39	86.90
	16QAM	1/0	825.5	18.30	67.61
		1/0	836.5	18.64	73.11
		1/0	847.5	18.58	72.11
5	QPSK	1/0	826.5	19.07	80.72
		1/0	836.5	19.54	89.95
		1/0	846.5	19.40	87.10
	16QAM	1/0	826.5	18.26	66.99
		1/0	836.5	18.73	74.64
		1/0	846.5	18.53	71.29
10	QPSK	1/0	829	19.13	81.85
		1/0	836.5	19.43	87.70
		1/0	844	19.39	86.90
	16QAM	1/0	829	18.41	69.34
		1/0	836.5	18.57	71.94
		1/0	844	18.44	69.82

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 1MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	13.02	V	0.4	0.0	12.65	38.5	-25.8	
824.70	19.40	H	0.4	0.0	19.03	38.5	-19.5	
Mid Ch								
836.50	12.20	V	0.4	0.0	11.82	38.5	-26.7	
836.50	20.09	H	0.4	0.0	19.71	38.5	-18.8	
High Ch								
848.30	11.96	V	0.4	0.0	11.58	38.5	-26.9	
848.30	19.79	H	0.4	0.0	19.41	38.5	-19.1	

LTE B5 1.4MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 1MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	12.09	V	0.4	0.0	11.72	38.5	-26.8	
824.70	18.26	H	0.4	0.0	17.89	38.5	-20.6	
Mid Ch								
836.50	11.23	V	0.4	0.0	10.85	38.5	-27.6	
836.50	18.99	H	0.4	0.0	18.61	38.5	-19.9	
High Ch								
848.30	10.97	V	0.4	0.0	10.59	38.5	-27.9	
848.30	18.72	H	0.4	0.0	18.34	38.5	-20.2	

LTE B5 1.4MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	12.98	V	0.4	0.0	12.61	38.5	-25.9	
825.50	19.38	H	0.4	0.0	19.01	38.5	-19.5	
Mid Ch								
836.50	12.31	V	0.4	0.0	11.93	38.5	-26.6	
836.50	19.84	H	0.4	0.0	19.46	38.5	-19.0	
High Ch								
847.50	12.04	V	0.4	0.0	11.66	38.5	-26.8	
847.50	19.77	H	0.4	0.0	19.39	38.5	-19.1	

LTE B5 3MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
825.50	12.07	V	0.4	0.0	11.70	38.5	-26.8	
825.50	18.67	H	0.4	0.0	18.30	38.5	-20.2	
Mid Ch								
836.50	11.38	V	0.4	0.0	11.00	38.5	-27.5	
836.50	19.02	H	0.4	0.0	18.64	38.5	-19.9	
High Ch								
847.50	11.03	V	0.4	0.0	10.65	38.5	-27.8	
847.50	18.96	H	0.4	0.0	18.58	38.5	-19.9	

LTE B5 3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	12.88	V	0.4	0.0	12.51	38.5	-26.0	
826.50	19.44	H	0.4	0.0	19.07	38.5	-19.4	
Mid Ch								
836.50	12.52	V	0.4	0.0	12.14	38.5	-26.4	
836.50	19.92	H	0.4	0.0	19.54	38.5	-19.0	
High Ch								
846.50	12.29	V	0.4	0.0	11.91	38.5	-26.6	
846.50	19.78	H	0.4	0.0	19.40	38.5	-19.1	

LTE B5 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.50	11.78	V	0.4	0.0	11.41	38.5	-27.1	
826.50	18.63	H	0.4	0.0	18.26	38.5	-20.2	
Mid Ch								
836.50	11.40	V	0.4	0.0	11.02	38.5	-27.5	
836.50	19.11	H	0.4	0.0	18.73	38.5	-19.8	
High Ch								
846.50	10.89	V	0.4	0.0	10.51	38.5	-28.0	
846.50	18.91	H	0.4	0.0	18.53	38.5	-20.0	

LTE B5 5MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 5 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	12.50	V	0.4	0.0	12.13	38.5	-26.4	
829.00	19.50	H	0.4	0.0	19.13	38.5	-19.4	
Mid Ch								
836.50	12.18	V	0.4	0.0	11.80	38.5	-26.7	
836.50	19.81	H	0.4	0.0	19.43	38.5	-19.1	
High Ch								
844.00	11.67	V	0.4	0.0	11.29	38.5	-27.2	
844.00	19.77	H	0.4	0.0	19.39	38.5	-19.1	

LTE B5 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 5 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
829.00	11.71	V	0.4	0.0	11.34	38.5	-27.2	
829.00	18.78	H	0.4	0.0	18.41	38.5	-20.1	
Mid Ch								
836.50	11.40	V	0.4	0.0	11.02	38.5	-27.5	
836.50	18.95	H	0.4	0.0	18.57	38.5	-19.9	
High Ch								
844.00	10.86	V	0.4	0.0	10.48	38.5	-28.0	
844.00	18.82	H	0.4	0.0	18.44	38.5	-20.1	

LTE B5 10MHz 16QAM

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LTE Band 7

BW (MHz)	Mode	RB/RB Size	f(MHz)	EIRP	
				dBm	mW
5	QPSK	1/0	2502.5	26.67	464.52
		1/0	2535	27.48	559.76
		1/0	2567.5	26.23	419.76
	16QAM	1/0	2502.5	26.68	465.59
		1/0	2535	27.36	544.50
		1/0	2567.5	26.35	431.52
10	QPSK	1/0	2505	25.29	338.06
		1/0	2535	25.51	355.63
		1/0	2565	24.59	287.74
	16QAM	1/0	2505	26.79	477.53
		1/0	2535	24.71	295.80
		1/0	2565	25.37	344.35
15	QPSK	1/0	2507.5	25.05	319.89
		1/0	2535	25.38	345.14
		1/0	2562.5	22.18	165.20
	16QAM	1/0	2507.5	25.19	330.37
		1/0	2535	25.60	363.08
		1/0	2562.5	22.18	165.20
20	QPSK	1/0	2510	24.19	262.42
		1/0	2535	25.86	385.48
		1/0	2560	25.02	317.69
	16QAM	1/0	2510	24.47	279.90
		1/0	2535	25.95	393.55
		1/0	2560	25.12	325.09

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	8.47	V	0.7	10.3	18.10	33.0	-14.9	
2502.50	17.04	H	0.7	10.3	26.67	33.0	-6.3	
Mid Ch								
2535.00	7.44	V	0.7	10.3	17.02	33.0	-16.0	
2535.00	17.90	H	0.7	10.3	27.48	33.0	-5.5	
High Ch								
2567.50	16.19	V	0.7	10.3	25.84	33.0	-7.2	
2567.50	16.58	H	0.7	10.3	26.23	33.0	-6.8	

LTE B7 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	8.50	V	0.7	10.3	18.13	33.0	-14.9	
2502.50	17.05	H	0.7	10.3	26.68	33.0	-6.3	
Mid Ch								
2535.00	7.25	V	0.7	10.3	16.83	33.0	-16.2	
2535.00	17.78	H	0.7	10.3	27.36	33.0	-5.6	
High Ch								
2567.50	16.23	V	0.7	10.3	25.88	33.0	-7.1	
2567.50	16.70	H	0.7	10.3	26.35	33.0	-6.7	

LTE B7 5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	14.33	V	0.7	10.3	23.98	33.0	-9.0	
2505.00	15.65	H	0.7	10.3	25.29	33.0	-7.7	
Mid Ch								
2535.00	15.00	V	0.7	10.3	24.58	33.0	-8.4	
2535.00	15.93	H	0.7	10.3	25.51	33.0	-7.5	
High Ch								
2565.00	14.95	V	0.7	10.3	24.59	33.0	-8.4	
2565.00	14.12	H	0.7	10.3	23.76	33.0	-9.2	

LTE B7 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	14.70	V	0.7	10.3	24.35	33.0	-8.7	
2505.00	17.15	H	0.7	10.3	26.79	33.0	-6.2	
Mid Ch								
2535.00	15.46	V	0.7	10.3	25.04	33.0	-8.0	
2535.00	15.13	H	0.7	10.3	24.71	33.0	-8.3	
High Ch								
2565.00	15.31	V	0.7	10.3	24.95	33.0	-8.0	
2565.00	15.73	H	0.7	10.3	25.37	33.0	-7.6	

LTE B7 10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	15.39	V	0.6	10.3	25.05	33.0	-7.9	
2507.50	11.97	H	0.6	10.3	21.63	33.0	-11.4	
Mid Ch								
2535.00	14.73	V	0.7	10.3	24.31	33.0	-8.7	
2535.00	15.80	H	0.7	10.3	25.38	33.0	-7.6	
High Ch								
2562.50	2.03	V	0.7	10.3	11.67	33.0	-21.3	
2562.50	12.54	H	0.7	10.3	22.18	33.0	-10.8	

LTE B7 15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	15.53	V	0.6	10.3	25.19	33.0	-7.8	
2507.50	12.31	H	0.6	10.3	21.97	33.0	-11.0	
Mid Ch								
2535.00	14.97	V	0.7	10.3	24.55	33.0	-8.4	
2535.00	16.02	H	0.7	10.3	25.60	33.0	-7.4	
High Ch								
2562.50	1.96	V	0.7	10.3	11.60	33.0	-21.4	
2562.50	12.54	H	0.7	10.3	22.18	33.0	-10.8	

LTE B7 15MHz 16QAM

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2510.00	14.31	V	0.6	10.3	23.98	33.0	-9.0	
2510.00	14.53	H	0.6	10.3	24.19	33.0	-8.8	
Mid Ch								
2535.00	14.38	V	0.7	10.3	23.96	33.0	-9.0	
2535.00	16.28	H	0.7	10.3	25.86	33.0	-7.1	
High Ch								
2560.00	15.39	V	0.7	10.3	25.02	33.0	-8.0	
2560.00	14.66	H	0.7	10.3	24.29	33.0	-8.7	

LTE B7 20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2510.00	13.93	V	0.6	10.3	23.60	33.0	-9.4	
2510.00	14.81	H	0.6	10.3	24.47	33.0	-8.5	
Mid Ch								
2535.00	14.52	V	0.7	10.3	24.10	33.0	-8.9	
2535.00	16.37	H	0.7	10.3	25.95	33.0	-7.0	
High Ch								
2560.00	15.49	V	0.7	10.3	25.12	33.0	-7.9	
2560.00	14.89	H	0.7	10.3	24.52	33.0	-8.5	

LTE B7 20MHz 16QAM

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LTE Band 12

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
1.4	QPSK	1/0	699.7	15.61	36.39
		1/0	707.5	16.47	44.36
		1/0	715.3	17.32	53.95
	16QAM	1/0	699.7	15.03	31.84
		1/0	707.5	15.71	37.24
		1/0	715.3	16.49	44.57
3	QPSK	1/0	700.5	15.82	38.19
		1/0	707.5	16.71	46.88
		1/0	714.5	17.49	56.10
	16QAM	1/0	700.5	15.16	32.81
		1/0	707.5	15.81	38.11
		1/0	714.5	16.73	47.10
5	QPSK	1/0	701.5	16.06	40.36
		1/0	707.5	16.68	46.56
		1/0	713.5	16.25	42.17
	16QAM	1/0	701.5	15.23	33.34
		1/0	707.5	15.80	38.02
		1/0	713.5	15.55	35.89
10	QPSK	1/0	704	16.37	43.35
		1/0	707.5	16.59	45.60
		1/0	711	17.28	53.46
	16QAM	1/0	704	15.55	35.89
		1/0	707.5	15.81	38.11
		1/0	711	16.70	46.77

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK BAND 12 Fundamentals 1.4MHz

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	7.95	V	0.4	0.0	7.59	34.8	-27.2	
699.70	15.97	H	0.4	0.0	15.61	34.8	-19.2	
Mid Ch								
707.50	9.67	V	0.3	0.0	9.33	34.8	-25.5	
707.50	16.81	H	0.3	0.0	16.47	34.8	-18.3	
High Ch								
715.30	8.76	V	0.3	0.0	8.41	34.8	-26.4	
715.30	17.67	H	0.3	0.0	17.32	34.8	-17.5	

LTE B12 1.4MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM BAND 12 Fundamentals 1.4MHz

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	7.22	V	0.4	0.0	6.86	34.8	-27.9	
699.70	15.39	H	0.4	0.0	15.03	34.8	-19.8	
Mid Ch								
707.50	8.75	V	0.3	0.0	8.41	34.8	-26.4	
707.50	16.05	H	0.3	0.0	15.71	34.8	-19.1	
High Ch								
715.30	8.02	V	0.3	0.0	7.67	34.8	-27.1	
715.30	16.84	H	0.3	0.0	16.49	34.8	-18.3	

LTE B12 1.4MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	8.16	V	0.4	0.0	7.80	34.8	-27.0	
700.50	16.18	H	0.4	0.0	15.82	34.8	-19.0	
Mid Ch								
707.50	9.67	V	0.3	0.0	9.33	34.8	-25.5	
707.50	17.05	H	0.3	0.0	16.71	34.8	-18.1	
High Ch								
714.50	9.18	V	0.3	0.0	8.84	34.8	-26.0	
714.50	17.83	H	0.3	0.0	17.49	34.8	-17.3	

LTE B12 3MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	7.29	V	0.4	0.0	6.93	34.8	-27.9	
700.50	15.52	H	0.4	0.0	15.16	34.8	-19.6	
Mid Ch								
707.50	8.92	V	0.3	0.0	8.58	34.8	-26.2	
707.50	16.15	H	0.3	0.0	15.81	34.8	-19.0	
High Ch								
714.50	8.39	V	0.3	0.0	8.05	34.8	-26.8	
714.50	17.07	H	0.3	0.0	16.73	34.8	-18.1	

LTE B12 3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	8.34	V	0.4	0.0	7.98	34.8	-26.8	
701.50	16.42	H	0.4	0.0	16.06	34.8	-18.7	
Mid Ch								
707.50	9.77	V	0.3	0.0	9.43	34.8	-25.4	
707.50	17.02	H	0.3	0.0	16.68	34.8	-18.1	
High Ch								
713.50	8.26	V	0.3	0.0	7.92	34.8	-26.9	
713.50	16.59	H	0.3	0.0	16.25	34.8	-18.6	

LTE B12 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	7.71	V	0.4	0.0	7.35	34.8	-27.4	
701.50	15.59	H	0.4	0.0	15.23	34.8	-19.6	
Mid Ch								
707.50	9.05	V	0.3	0.0	8.71	34.8	-26.1	
707.50	16.14	H	0.3	0.0	15.80	34.8	-19.0	
High Ch								
713.50	7.39	V	0.3	0.0	7.05	34.8	-27.8	
713.50	15.89	H	0.3	0.0	15.55	34.8	-19.3	

LTE B12 5MHz 16QAM

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	8.41	V	0.4	0.0	8.06	34.8	-26.7	
704.00	16.72	H	0.4	0.0	16.37	34.8	-18.4	
Mid Ch								
707.50	9.75	V	0.3	0.0	9.41	34.8	-25.4	
707.50	16.93	H	0.3	0.0	16.59	34.8	-18.2	
High Ch								
711.00	9.28	V	0.3	0.0	8.94	34.8	-25.9	
711.00	17.62	H	0.3	0.0	17.28	34.8	-17.5	

LTE B12 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
704.00	7.75	V	0.4	0.0	7.40	34.8	-27.4	
704.00	15.90	H	0.4	0.0	15.55	34.8	-19.3	
Mid Ch								
707.50	8.95	V	0.3	0.0	8.61	34.8	-26.2	
707.50	16.15	H	0.3	0.0	15.81	34.8	-19.0	
High Ch								
711.00	8.56	V	0.3	0.0	8.22	34.8	-26.6	
711.00	17.04	H	0.3	0.0	16.70	34.8	-18.1	

LTE B12 10MHz 16QAM

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LTE Band 13

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
5	QPSK	1/0	779.5	20.23	105.44
		1/0	782	20.46	111.17
		1/0	784.5	20.73	118.30
	16QAM	1/0	779.5	19.46	88.31
		1/0	782	19.53	89.74
		1/0	784.5	20.02	100.46
10	QPSK	1/0	782	20.41	109.90
	16QAM	1/0	782	19.54	89.95

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only
Location: Chamber A
Mode: LTE_QPSK Band 13 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
779.50	13.46	V	0.4	0.0	13.10	34.8	-21.7	
779.50	20.59	H	0.4	0.0	20.23	34.8	-14.5	
Mid Ch								
782.00	14.05	V	0.4	0.0	13.69	34.8	-21.1	
782.00	20.82	H	0.4	0.0	20.46	34.8	-14.3	
High Ch								
784.50	14.40	V	0.4	0.0	14.04	34.8	-20.7	
784.50	21.09	H	0.4	0.0	20.73	34.8	-14.0	

LTE B13 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 13 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
779.50	12.74	V	0.4	0.0	12.38	34.8	-22.4	
779.50	19.82	H	0.4	0.0	19.46	34.8	-15.3	
Mid Ch								
782.00	13.12	V	0.4	0.0	12.76	34.8	-22.0	
782.00	19.89	H	0.4	0.0	19.53	34.8	-15.2	
High Ch								
784.50	13.59	V	0.4	0.0	13.23	34.8	-21.5	
784.50	20.38	H	0.4	0.0	20.02	34.8	-14.8	

LTE B13 5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 13 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
Mid Ch								
782.00	13.55	V	0.4	0.0	13.19	34.8	-21.6	
782.00	20.77	H	0.4	0.0	20.41	34.8	-14.4	
High Ch								

LTE B13 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 13 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T130, and Chamber A SMA Cables
Substitution: Dipole T273, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
Mid Ch								
782.00	12.73	V	0.4	0.0	12.37	34.8	-22.4	
782.00	19.90	H	0.4	0.0	19.54	34.8	-15.2	
High Ch								

LTE B13 10MHz 16QAM

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LTE Band 17

BW (MHz)	Mode	RB/RB Size	f(MHz)	ERP	
				dBm	mW
5	QPSK	1/0	706.5	18.22	66.37
		1/0	710	17.26	53.21
		1/0	713.5	18.37	68.71
	16QAM	1/0	706.5	17.33	54.08
		1/0	710	16.59	45.60
		1/0	713.5	17.71	59.02
10	QPSK	1/0	709	15.61	36.39
		1/0	710	17.48	55.98
		1/0	711	15.27	33.65
	16QAM	1/0	709	15.24	33.42
		1/0	710	16.60	45.71
		1/0	711	14.60	28.84

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: 11626381
Project #: SOMC
Date: 3/15/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	7.90	V	0.3	0.0	7.55	34.8	-27.2	
706.50	18.57	H	0.3	0.0	18.22	34.8	-16.5	
Mid Ch								
710.00	6.49	V	0.3	0.0	6.15	34.8	-28.6	
710.00	17.60	H	0.3	0.0	17.26	34.8	-17.5	
High Ch								
713.50	10.52	V	0.3	0.0	10.18	34.8	-24.6	
713.50	18.72	H	0.3	0.0	18.37	34.8	-16.4	

LTE B17 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: 11626381
Project #: SOMC
Date: 3/15/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	7.03	V	0.3	0.0	6.68	34.8	-28.1	
706.50	17.68	H	0.3	0.0	17.33	34.8	-17.4	
Mid Ch								
710.00	5.85	V	0.3	0.0	5.51	34.8	-29.3	
710.00	16.93	H	0.3	0.0	16.59	34.8	-18.2	
High Ch								
713.50	9.69	V	0.3	0.0	9.35	34.8	-25.4	
713.50	18.06	H	0.3	0.0	17.71	34.8	-17.1	

LTE B17 5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	7.89	V	0.3	0.0	7.54	34.8	-27.2	
709.00	15.96	H	0.3	0.0	15.61	34.8	-19.2	
Mid Ch								
710.00	7.95	V	0.3	0.0	7.61	34.8	-27.2	
710.00	17.82	H	0.3	0.0	17.48	34.8	-17.3	
High Ch								
711.00	8.35	V	0.3	0.0	8.01	34.8	-26.8	
711.00	15.62	H	0.3	0.0	15.27	34.8	-19.5	

LTE B17 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T243, and Chamber B SMA Cables
Substitution: Dipole T416, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	7.39	V	0.3	0.0	7.04	34.8	-27.7	
709.00	15.59	H	0.3	0.0	15.24	34.8	-19.5	
Mid Ch								
710.00	7.29	V	0.3	0.0	6.95	34.8	-27.8	
710.00	16.94	H	0.3	0.0	16.60	34.8	-18.2	
High Ch								
711.00	7.84	V	0.3	0.0	7.50	34.8	-27.3	
711.00	14.95	H	0.3	0.0	14.60	34.8	-20.2	

LTE B17 10MHz 16QAM

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LTE Band 41

BW (MHz)	Mode	RB/RB Size	f(MHz)	EIRP	
				dBm	mW
5	QPSK	1/0	2498.5	24.59	287.74
		1/0	2593	24.95	312.61
		1/0	2687.5	23.40	218.78
	16QAM	1/0	2498.5	24.38	274.16
		1/0	2593	24.98	314.77
		1/0	2687.5	23.77	238.23
10	QPSK	1/0	2501	23.29	213.30
		1/0	2593	24.09	256.45
		1/0	2685	24.60	288.40
	16QAM	1/0	2501	23.33	215.28
		1/0	2593	24.68	293.76
		1/0	2685	24.60	288.40
15	QPSK	1/0	2503.5	22.92	195.88
		1/0	2593	23.29	213.30
		1/0	2682.5	22.55	179.89
	16QAM	1/0	2503.5	23.02	200.45
		1/0	2593	23.86	243.22
		1/0	2682.5	23.44	220.80
20	QPSK	1/0	2506	24.29	268.53
		1/0	2593	23.47	222.33
		1/0	2680	25.54	358.10
	16QAM	1/0	2506	24.53	283.79
		1/0	2593	23.79	239.33
		1/0	2680	25.45	350.75

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	15.67	V	0.7	9.5	24.48	33.0	-8.5	
2498.50	15.78	H	0.7	9.5	24.59	33.0	-8.4	
Mid Ch								
2593.00	5.24	V	0.7	9.5	14.02	33.0	-19.0	
2593.00	16.17	H	0.7	9.5	24.95	33.0	-8.1	
High Ch								
2687.50	3.96	V	0.7	9.5	12.77	33.0	-20.2	
2687.50	14.59	H	0.7	9.5	23.40	33.0	-9.6	

LTE B41 5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	15.54	V	0.7	9.5	24.35	33.0	-8.6	
2498.50	15.57	H	0.7	9.5	24.38	33.0	-8.6	
Mid Ch								
2593.00	5.28	V	0.7	9.5	14.06	33.0	-18.9	
2593.00	16.20	H	0.7	9.5	24.98	33.0	-8.0	
High Ch								
2687.50	4.33	V	0.7	9.5	13.14	33.0	-19.9	
2687.50	14.96	H	0.7	9.5	23.77	33.0	-9.2	

LTE B41 5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	2.69	V	0.7	9.5	11.52	33.0	-21.5	
2501.00	14.47	H	0.7	9.5	23.29	33.0	-9.7	
Mid Ch								
2593.00	14.93	V	0.7	9.5	23.71	33.0	-9.3	
2593.00	15.31	H	0.7	9.5	24.09	33.0	-8.9	
High Ch								
2685.00	15.50	V	0.7	9.5	24.32	33.0	-8.7	
2685.00	15.79	H	0.7	9.5	24.60	33.0	-8.4	

LTE B41 10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	2.71	V	0.7	9.5	11.54	33.0	-21.5	
2501.00	14.51	H	0.7	9.5	23.33	33.0	-9.7	
Mid Ch								
2593.00	15.32	V	0.7	9.5	24.10	33.0	-8.9	
2593.00	15.90	H	0.7	9.5	24.68	33.0	-8.3	
High Ch								
2685.00	16.20	V	0.7	9.5	25.02	33.0	-8.0	
2685.00	15.79	H	0.7	9.5	24.60	33.0	-8.4	

LTE B41 10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	13.93	V	0.7	9.5	22.77	33.0	-10.2	
2503.50	14.08	H	0.7	9.5	22.92	33.0	-10.1	
Mid Ch								
2593.00	2.49	V	0.7	9.5	11.27	33.0	-21.7	
2593.00	14.51	H	0.7	9.5	23.29	33.0	-9.7	
High Ch								
2682.50	14.65	V	0.7	9.5	23.47	33.0	-9.5	
2682.50	13.73	H	0.7	9.5	22.55	33.0	-10.5	

LTE B41 15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

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	14.10	V	0.7	9.5	22.94	33.0	-10.1	
2503.50	14.18	H	0.7	9.5	23.02	33.0	-10.0	
Mid Ch								
2593.00	2.77	V	0.7	9.5	11.55	33.0	-21.5	
2593.00	15.08	H	0.7	9.5	23.86	33.0	-9.1	
High Ch								
2682.50	14.62	V	0.7	9.5	23.44	33.0	-9.6	
2682.50	14.08	H	0.7	9.5	22.90	33.0	-10.1	

LTE B41 15MHz 16QAM

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UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2506.00	3.07	V	0.6	9.5	11.93	33.0	-21.1	
2506.00	15.44	H	0.6	9.5	24.29	33.0	-8.7	
Mid Ch								
2593.00	14.69	V	0.7	9.5	23.47	33.0	-9.5	
2593.00	14.65	H	0.7	9.5	23.43	33.0	-9.6	
High Ch								
2680.00	16.09	V	0.7	9.5	24.91	33.0	-8.1	
2680.00	16.73	H	0.7	9.5	25.54	33.0	-7.5	

LTE B41 20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/10/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T345, and Chamber B SMA Cables
Substitution: Horn T72, 6ft N-type Cable T1096

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
2506.00	3.16	V	0.6	9.5	12.02	33.0	-21.0	
2506.00	15.68	H	0.6	9.5	24.53	33.0	-8.5	
Mid Ch								
2593.00	15.02	V	0.7	9.5	23.80	33.0	-9.2	
2593.00	15.01	H	0.7	9.5	23.79	33.0	-9.2	
High Ch								
2680.00	16.24	V	0.7	9.5	25.06	33.0	-7.9	
2680.00	16.64	H	0.7	9.5	25.45	33.0	-7.5	

LTE B41 20MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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17.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

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

LIMIT

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 that 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.

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
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17.2.1. SPURIOUS RADIATION PLOTS

GSM

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

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43574 JS
Configuration: EUT + Charger
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	-23.3	V	3.0	37.0	1.0	-59.3	-13.0	-46.3	
2472.60	-19.2	V	3.0	36.4	1.0	-54.6	-13.0	-41.6	
3296.80	-16.5	V	3.0	36.2	1.0	-51.6	-13.0	-38.6	
1648.40	-23.9	H	3.0	37.0	1.0	-59.9	-13.0	-46.9	
2472.60	-21.3	H	3.0	36.4	1.0	-56.7	-13.0	-43.7	
3296.80	-17.5	H	3.0	36.2	1.0	-52.7	-13.0	-39.7	
Mid Ch, 836.6									
1673.20	-22.8	V	3.0	37.0	1.0	-58.8	-13.0	-45.8	
2509.80	-18.9	V	3.0	36.4	1.0	-54.3	-13.0	-41.3	
3346.40	-16.3	V	3.0	36.1	1.0	-51.4	-13.0	-38.4	
1673.20	-22.4	H	3.0	37.0	1.0	-58.4	-13.0	-45.4	
2509.80	-21.6	H	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3346.40	-16.4	H	3.0	36.1	1.0	-51.5	-13.0	-38.5	
High Ch, 848.8									
1697.60	-22.8	V	3.0	37.0	1.0	-58.8	-13.0	-45.8	
2546.40	-19.1	V	3.0	36.4	1.0	-54.5	-13.0	-41.5	
3395.20	-16.2	V	3.0	36.1	1.0	-51.3	-13.0	-38.3	
1697.60	23.6	H	3.0	37.0	1.0	59.5	-13.0	-46.5	
2546.40	21.2	H	3.0	36.4	1.0	56.6	-13.0	-43.6	
3395.20	-17.3	H	3.0	36.1	1.0	-52.4	-13.0	-39.4	

GSM850 GPRS

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

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43574 JS
Configuration: EUT + Charger
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	-23.7	V	3.0	37.0	1.0	-59.7	-13.0	-46.7	
2472.60	-19.7	V	3.0	36.4	1.0	-55.2	-13.0	-42.2	
3296.80	-17.0	V	3.0	36.2	1.0	-52.1	-13.0	-39.1	
1648.40	-23.8	H	3.0	37.0	1.0	-59.8	-13.0	-46.8	
2472.60	-21.7	H	3.0	36.4	1.0	-57.1	-13.0	-44.1	
3296.80	-17.2	H	3.0	36.2	1.0	-52.4	-13.0	-39.4	
Mid Ch, 836.6									
1673.20	-22.8	V	3.0	37.0	1.0	-58.8	-13.0	-45.8	
2509.80	-19.1	V	3.0	36.4	1.0	-54.5	-13.0	-41.5	
3346.40	-17.4	V	3.0	36.1	1.0	-52.6	-13.0	-39.6	
1673.20	-23.0	H	3.0	37.0	1.0	-59.0	-13.0	-46.0	
2509.80	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3346.40	-16.5	H	3.0	36.1	1.0	-51.6	-13.0	-38.6	
High Ch, 848.8									
1697.60	-22.8	V	3.0	37.0	1.0	-58.8	-13.0	-45.8	
2546.40	-19.6	V	3.0	36.4	1.0	-55.0	-13.0	-42.0	
3395.20	-16.5	V	3.0	36.1	1.0	-51.6	-13.0	-38.6	
1697.60	-23.2	H	3.0	37.0	1.0	-59.1	-13.0	-46.1	
2546.40	-21.5	H	3.0	36.4	1.0	-56.9	-13.0	-43.9	
3395.20	-17.0	H	3.0	36.1	1.0	-52.1	-13.0	-39.1	

GSM850 EGPRS

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

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
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	-11.2	V	3.0	35.9	1.0	-46.0	-13.0	-33.0	
5550.60	-10.9	V	3.0	35.5	1.0	-45.4	-13.0	-32.4	
7400.80	-9.3	V	3.0	35.7	1.0	-44.0	-13.0	-31.0	
3700.40	-11.6	H	3.0	35.9	1.0	-46.4	-13.0	-33.4	
5550.60	-10.2	H	3.0	35.5	1.0	-44.6	-13.0	-31.6	
7400.80	-7.8	H	3.0	35.7	1.0	-42.5	-13.0	-29.5	
Mid Ch, 1880									
3760.00	-11.6	V	3.0	35.8	1.0	-46.4	-13.0	-33.4	
5640.00	-10.2	V	3.0	35.5	1.0	-44.7	-13.0	-31.7	
7520.00	-8.9	V	3.0	35.7	1.0	-43.6	-13.0	-30.6	
3760.00	-11.4	H	3.0	35.8	1.0	-46.2	-13.0	-33.2	
5640.00	-9.8	H	3.0	35.5	1.0	-44.3	-13.0	-31.3	
7520.00	-7.7	H	3.0	35.7	1.0	-42.5	-13.0	-29.5	
High Ch, 1909.8									
3819.60	-11.0	V	3.0	35.8	1.0	-45.7	-13.0	-32.7	
5729.40	-10.4	V	3.0	35.5	1.0	-44.9	-13.0	-31.9	
7639.20	-8.6	V	3.0	35.8	1.0	-43.3	-13.0	-30.3	
3819.60	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	
5729.40	-9.4	H	3.0	35.5	1.0	-43.9	-13.0	-30.9	
7639.20	-7.0	H	3.0	35.8	1.0	-41.7	-13.0	-28.7	

GSM1900 GPRS

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

Company: SOMC
Project #: 11626381
Date: 3/15/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
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	-12.6	V	3.0	35.9	1.0	-47.5	-13.0	-34.5	
5550.60	-9.9	V	3.0	35.5	1.0	-44.3	-13.0	-31.3	
7400.80	-8.7	V	3.0	35.7	1.0	-43.5	-13.0	-30.5	
3700.40	-12.4	H	3.0	35.9	1.0	-47.2	-13.0	-34.2	
5550.60	-8.8	H	3.0	35.5	1.0	-43.3	-13.0	-30.3	
7400.80	-7.1	H	3.0	35.7	1.0	-41.8	-13.0	-28.8	
Mid Ch, 1880									
3760.00	-11.9	V	3.0	35.8	1.0	-46.7	-13.0	-33.7	
5640.00	-9.6	V	3.0	35.5	1.0	-44.1	-13.0	-31.1	
7520.00	-8.4	V	3.0	35.7	1.0	-43.2	-13.0	-30.2	
3760.00	-12.3	H	3.0	35.8	1.0	-47.1	-13.0	-34.1	
5640.00	-9.8	H	3.0	35.5	1.0	-44.3	-13.0	-31.3	
7520.00	-7.6	H	3.0	35.7	1.0	-42.3	-13.0	-29.3	
High Ch, 1909.8									
3819.60	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
5729.40	-9.4	V	3.0	35.5	1.0	-43.9	-13.0	-30.9	
7639.20	-8.2	V	3.0	35.8	1.0	-43.0	-13.0	-30.0	
3819.60	-12.2	H	3.0	35.8	1.0	-47.0	-13.0	-34.0	
5729.40	-8.9	H	3.0	35.5	1.0	-43.4	-13.0	-30.4	
7639.20	-7.0	H	3.0	35.8	1.0	-41.7	-13.0	-28.7	

GSM1900 EGPRS

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
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WCDMA

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: Rel99 Band 5 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, 826.4									
1652.80	-24.1	V	3.0	37.0	1.0	-60.1	-13.0	-47.1	
2479.20	-20.2	V	3.0	36.4	1.0	-55.6	-13.0	-42.6	
3305.60	-18.2	V	3.0	36.1	1.0	-53.4	-13.0	-40.4	
1652.80	-23.0	H	3.0	37.0	1.0	-59.1	-13.0	-46.1	
2479.20	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3305.60	-18.6	H	3.0	36.1	1.0	-53.7	-13.0	-40.7	
Mid Ch, 836.6									
1673.20	-23.9	V	3.0	37.0	1.0	-59.9	-13.0	-46.9	
2509.80	-20.0	V	3.0	36.4	1.0	-55.4	-13.0	-42.4	
3346.40	-18.1	V	3.0	36.1	1.0	-53.2	-13.0	-40.2	
1673.20	-23.3	H	3.0	37.0	1.0	-59.3	-13.0	-46.3	
2509.80	-21.7	H	3.0	36.4	1.0	-57.1	-13.0	-44.1	
3346.40	-19.0	H	3.0	36.1	1.0	-54.1	-13.0	-41.1	
High Ch, 846.6									
1693.20	-23.8	V	3.0	37.0	1.0	-59.7	-13.0	-46.7	
2539.80	-19.9	V	3.0	36.4	1.0	-55.3	-13.0	-42.3	
3386.40	-18.0	V	3.0	36.1	1.0	-53.1	-13.0	-40.1	
1693.20	-23.5	H	3.0	37.0	1.0	-59.5	-13.0	-46.5	
2539.80	-21.5	H	3.0	36.4	1.0	-56.9	-13.0	-43.9	
3386.40	-18.5	H	3.0	36.1	1.0	-53.6	-13.0	-40.6	

B5 REL99

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: HSDPA Band 5 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, 826.4									
1652.80	-24.3	V	3.0	37.0	1.0	-60.3	-13.0	-47.3	
2479.20	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
3305.60	-17.5	V	3.0	36.1	1.0	-52.6	-13.0	-39.6	
1652.80	-24.5	H	3.0	37.0	1.0	-60.5	-13.0	-47.5	
2479.20	-22.6	H	3.0	36.4	1.0	-58.1	-13.0	-45.1	
3305.60	-17.6	H	3.0	36.1	1.0	-52.8	-13.0	-39.8	
Mid Ch, 836.6									
1673.20	-24.1	V	3.0	37.0	1.0	-60.1	-13.0	-47.1	
2509.80	-20.3	V	3.0	36.4	1.0	-55.8	-13.0	-42.8	
3346.40	-18.1	V	3.0	36.1	1.0	-53.2	-13.0	-40.2	
1673.20	-24.4	H	3.0	37.0	1.0	-60.4	-13.0	-47.4	
2509.80	-21.6	H	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3346.40	-18.0	H	3.0	36.1	1.0	-53.1	-13.0	-40.1	
High Ch, 846.6									
1693.20	-23.9	V	3.0	37.0	1.0	-59.8	-13.0	-46.8	
2539.80	-20.3	V	3.0	36.4	1.0	-55.7	-13.0	-42.7	
3386.40	-17.8	V	3.0	36.1	1.0	-52.9	-13.0	-39.9	
1693.20	-24.3	H	3.0	37.0	1.0	-60.3	-13.0	-47.3	
2539.80	-21.6	H	3.0	36.4	1.0	-57.0	-13.0	-44.0	
3386.40	-17.8	H	3.0	36.1	1.0	-52.8	-13.0	-39.8	

B5 HSDPA

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LTE Band 4

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7MHz									
3421.40	-26.1	V	3.0	36.1	1.0	-61.2	-13.0	-48.2	
5132.10	-23.8	V	3.0	35.4	1.0	-58.2	-13.0	-45.2	
6842.80	-22.2	V	3.0	35.7	1.0	-56.9	-13.0	-43.9	
3421.40	-25.4	H	3.0	36.1	1.0	-60.5	-13.0	-47.5	
5132.10	-22.5	H	3.0	35.4	1.0	-56.9	-13.0	-43.9	
6842.80	-21.8	H	3.0	35.7	1.0	-56.5	-13.0	-43.5	
Mid Ch, 1732.5MHz									
3465.00	-26.2	V	3.0	36.0	1.0	-61.2	-13.0	-48.2	
5197.50	-22.2	V	3.0	35.4	1.0	-56.7	-13.0	-43.7	
6930.00	-23.6	V	3.0	35.7	1.0	-58.2	-13.0	-45.2	
3465.00	-24.2	H	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5197.50	-22.4	H	3.0	35.4	1.0	-56.8	-13.0	-43.8	
6930.00	-21.6	H	3.0	35.7	1.0	-56.2	-13.0	-43.2	
High Ch, 1754.3MHz									
3508.60	-25.9	V	3.0	36.0	1.0	-60.9	-13.0	-47.9	
5262.90	-23.0	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
7017.20	-21.7	V	3.0	35.7	1.0	-56.4	-13.0	-43.4	
3508.60	-23.5	H	3.0	36.0	1.0	-58.5	-13.0	-45.5	
5262.90	-23.1	H	3.0	35.4	1.0	-57.5	-13.0	-44.5	
7017.20	-21.9	H	3.0	35.7	1.0	-56.6	-13.0	-43.6	

LTE B4 1.4MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7MHz									
3421.40	-26.0	V	3.0	36.1	1.0	-61.1	-13.0	-48.1	
5132.10	-23.3	V	3.0	35.4	1.0	-57.7	-13.0	-44.7	
6842.80	-23.0	V	3.0	35.7	1.0	-57.6	-13.0	-44.6	
3421.40	-25.0	H	3.0	36.1	1.0	-60.1	-13.0	-47.1	
5132.10	-22.0	H	3.0	35.4	1.0	-56.4	-13.0	-43.4	
6842.80	-22.2	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	
Mid Ch, 1732.5MHz									
3465.00	-25.4	V	3.0	36.0	1.0	-60.4	-13.0	-47.4	
5197.50	-23.6	V	3.0	35.4	1.0	-58.0	-13.0	-45.0	
6930.00	-23.6	V	3.0	35.7	1.0	-58.3	-13.0	-45.3	
3465.00	-24.0	H	3.0	36.0	1.0	-59.0	-13.0	-46.0	
5197.50	-22.2	H	3.0	35.4	1.0	-56.6	-13.0	-43.6	
6930.00	-21.8	H	3.0	35.7	1.0	-56.5	-13.0	-43.5	
High Ch, 1754.3MHz									
3508.60	-26.3	V	3.0	36.0	1.0	-61.3	-13.0	-48.3	
5262.90	-22.8	V	3.0	35.4	1.0	-57.2	-13.0	-44.2	
7017.20	-23.3	V	3.0	35.7	1.0	-58.0	-13.0	-45.0	
3508.60	-24.1	H	3.0	36.0	1.0	-59.1	-13.0	-46.1	
5262.90	-23.5	H	3.0	35.4	1.0	-57.9	-13.0	-44.9	
7017.20	-22.4	H	3.0	35.7	1.0	-57.0	-13.0	-44.0	

LTE B4 1.4MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5MHz									
3423.00	-26.5	V	3.0	36.1	1.0	-61.5	-13.0	-48.5	
5134.50	-22.9	V	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6846.00	-22.1	V	3.0	35.7	1.0	-56.8	-13.0	-43.8	
3423.00	-25.5	H	3.0	36.1	1.0	-60.5	-13.0	-47.5	
5134.50	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6846.00	-20.8	H	3.0	35.7	1.0	-55.5	-13.0	-42.5	
Mid Ch, 1732.5MHz									
3465.00	-25.1	V	3.0	36.0	1.0	-60.1	-13.0	-47.1	
5197.50	-22.4	V	3.0	35.4	1.0	-56.9	-13.0	-43.9	
6930.00	-22.4	V	3.0	35.7	1.0	-57.1	-13.0	-44.1	
3465.00	-23.1	H	3.0	36.0	1.0	-58.1	-13.0	-45.1	
5197.50	-23.0	H	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6930.00	-22.1	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	
High Ch, 1753.5MHz									
3507.00	-25.2	V	3.0	36.0	1.0	-60.2	-13.0	-47.2	
5260.50	-22.9	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
7014.00	-23.2	V	3.0	35.7	1.0	-57.9	-13.0	-44.9	
3507.00	-24.3	H	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5260.50	-23.7	H	3.0	35.4	1.0	-58.2	-13.0	-45.2	
7014.00	-21.8	H	3.0	35.7	1.0	-56.4	-13.0	-43.4	

LTE B4 3MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1711.5MHz									
3423.00	-28.2	V	3.0	36.1	1.0	-63.2	-13.0	-50.2	
5134.50	-22.9	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6846.00	-21.0	V	3.0	35.7	1.0	-55.6	-13.0	-42.6	
3423.00	-25.5	H	3.0	36.1	1.0	-60.5	-13.0	-47.5	
5134.50	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6846.00	-20.1	H	3.0	35.7	1.0	-54.8	-13.0	-41.8	
Mid Ch, 1732.5MHz									
3465.00	-26.1	V	3.0	36.0	1.0	-61.1	-13.0	-48.1	
5197.50	-22.9	V	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6930.00	-22.7	V	3.0	35.7	1.0	-57.4	-13.0	-44.4	
3465.00	-23.9	H	3.0	36.0	1.0	-59.0	-13.0	-46.0	
5197.50	-22.5	H	3.0	35.4	1.0	-56.9	-13.0	-43.9	
6930.00	-21.8	H	3.0	35.7	1.0	-56.4	-13.0	-43.4	
High Ch, 1753.5MHz									
3507.00	-26.5	V	3.0	36.0	1.0	-61.5	-13.0	-48.5	
5260.50	-24.2	V	3.0	35.4	1.0	-58.6	-13.0	-45.6	
7014.00	-23.6	V	3.0	35.7	1.0	-58.2	-13.0	-45.2	
3507.00	-24.3	H	3.0	36.0	1.0	-59.3	-13.0	-46.3	
5260.50	-23.1	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
7014.00	-22.4	H	3.0	35.7	1.0	-57.1	-13.0	-44.1	

Version 1.2.4 updated 3/13/17

LTE B4 3MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-26.4	V	3.0	36.1	1.0	-61.4	-13.0	-48.4	
5137.50	-22.7	V	3.0	35.4	1.0	-57.1	-13.0	-44.1	
6850.00	-22.1	V	3.0	35.7	1.0	-56.7	-13.0	-43.7	
3425.00	-24.6	H	3.0	36.1	1.0	-59.7	-13.0	-46.7	
5137.50	-22.7	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
6850.00	-20.9	H	3.0	35.7	1.0	-55.6	-13.0	-42.6	
Mid Ch, 1732.5MHz									
3465.00	-26.4	V	3.0	36.0	1.0	-61.4	-13.0	-48.4	
5197.50	-23.6	V	3.0	35.4	1.0	-58.1	-13.0	-45.1	
6930.00	-22.7	V	3.0	35.7	1.0	-57.4	-13.0	-44.4	
3465.00	-23.8	H	3.0	36.0	1.0	-58.8	-13.0	-45.8	
5197.50	-22.7	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
6930.00	-21.4	H	3.0	35.7	1.0	-56.0	-13.0	-43.0	
High Ch, 1752.5MHz									
3505.00	-25.4	V	3.0	36.0	1.0	-60.4	-13.0	-47.4	
5257.50	-23.0	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
7010.00	-21.7	V	3.0	35.7	1.0	-56.4	-13.0	-43.4	
3505.00	-24.2	H	3.0	36.0	1.0	-59.2	-13.0	-46.2	
5257.50	-22.0	H	3.0	35.4	1.0	-56.5	-13.0	-43.5	
7010.00	-21.2	H	3.0	35.7	1.0	-55.9	-13.0	-42.9	

LTE B4 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-26.5	V	3.0	36.1	1.0	-61.6	-13.0	-48.6	
5137.50	-23.5	V	3.0	35.4	1.0	-57.9	-13.0	-44.9	
6850.00	-22.3	V	3.0	35.7	1.0	-57.0	-13.0	-44.0	
3425.00	-25.6	H	3.0	36.1	1.0	-60.6	-13.0	-47.6	
5137.50	-20.5	H	3.0	35.4	1.0	-54.9	-13.0	-41.9	
6850.00	-22.2	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	
Mid Ch, 1732.5MHz									
3465.00	-25.7	V	3.0	36.0	1.0	-60.7	-13.0	-47.7	
5197.50	-23.0	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6930.00	-23.1	V	3.0	35.7	1.0	-57.8	-13.0	-44.8	
3465.00	-24.1	H	3.0	36.0	1.0	-59.1	-13.0	-46.1	
5197.50	-23.1	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
6930.00	-22.0	H	3.0	35.7	1.0	-56.7	-13.0	-43.7	
High Ch, 1752.5MHz									
3505.00	-25.9	V	3.0	36.0	1.0	-60.9	-13.0	-47.9	
5257.50	-23.6	V	3.0	35.4	1.0	-58.0	-13.0	-45.0	
7010.00	-23.5	V	3.0	35.7	1.0	-58.2	-13.0	-45.2	
3505.00	-24.2	H	3.0	36.0	1.0	-59.2	-13.0	-46.2	
5257.50	-23.8	H	3.0	35.4	1.0	-58.3	-13.0	-45.3	
7010.00	-21.2	H	3.0	35.7	1.0	-55.9	-13.0	-42.9	

LTE B4 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715MHz									
3430.00	-26.8	V	3.0	36.1	1.0	-61.9	-13.0	-48.9	
5145.00	-23.2	V	3.0	35.4	1.0	-57.6	-13.0	-44.6	
6860.00	-22.4	V	3.0	35.7	1.0	-57.1	-13.0	-44.1	
3430.00	-25.3	H	3.0	36.1	1.0	-60.3	-13.0	-47.3	
5145.00	-21.9	H	3.0	35.4	1.0	-56.3	-13.0	-43.3	
6860.00	-22.1	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	
Mid Ch, 1732.5MHz									
3465.00	-25.7	V	3.0	36.0	1.0	-60.8	-13.0	-47.8	
5197.50	-23.0	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6930.00	-22.7	V	3.0	35.7	1.0	-57.4	-13.0	-44.4	
3465.00	-26.3	H	3.0	36.0	1.0	-61.3	-13.0	-48.3	
5197.50	-22.1	H	3.0	35.4	1.0	-56.6	-13.0	-43.6	
6930.00	-22.4	H	3.0	35.7	1.0	-57.1	-13.0	-44.1	
High Ch, 1750MHz									
3500.00	-26.1	V	3.0	36.0	1.0	-61.1	-13.0	-48.1	
5250.00	-24.4	V	3.0	35.4	1.0	-58.8	-13.0	-45.8	
7000.00	-23.3	V	3.0	35.7	1.0	-57.9	-13.0	-44.9	
3500.00	-24.7	H	3.0	36.0	1.0	-59.8	-13.0	-46.8	
5250.00	-23.2	H	3.0	35.4	1.0	-57.7	-13.0	-44.7	
7000.00	-22.4	H	3.0	35.7	1.0	-57.1	-13.0	-44.1	

LTE B4 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715MHz									
3430.00	-26.5	V	3.0	36.1	1.0	-61.6	-13.0	-48.6	
5145.00	-23.3	V	3.0	35.4	1.0	-57.7	-13.0	-44.7	
6860.00	-22.3	V	3.0	35.7	1.0	-56.9	-13.0	-43.9	
3430.00	-24.7	H	3.0	36.1	1.0	-59.8	-13.0	-46.8	
5145.00	-23.0	H	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6860.00	-21.4	H	3.0	35.7	1.0	-56.0	-13.0	-43.0	
Mid Ch, 1732.5MHz									
3465.00	-26.5	V	3.0	36.0	1.0	-61.5	-13.0	-48.5	
5197.50	-23.4	V	3.0	35.4	1.0	-57.8	-13.0	-44.8	
6930.00	-23.3	V	3.0	35.7	1.0	-58.0	-13.0	-45.0	
3465.00	-24.9	H	3.0	36.0	1.0	-59.9	-13.0	-46.9	
5197.50	-21.9	H	3.0	35.4	1.0	-56.3	-13.0	-43.3	
6930.00	-21.8	H	3.0	35.7	1.0	-56.5	-13.0	-43.5	
High Ch, 1750MHz									
3500.00	-26.2	V	3.0	36.0	1.0	-61.2	-13.0	-48.2	
5250.00	-23.6	V	3.0	35.4	1.0	-58.0	-13.0	-45.0	
7000.00	-23.5	V	3.0	35.7	1.0	-58.2	-13.0	-45.2	
3500.00	-25.4	H	3.0	36.0	1.0	-60.4	-13.0	-47.4	
5250.00	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
7000.00	-22.1	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	

LTE B4 10MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5MHz									
3435.00	-24.9	V	3.0	36.1	1.0	-60.0	-13.0	-47.0	
5152.50	-23.1	V	3.0	35.4	1.0	-57.5	-13.0	-44.5	
6870.00	-21.9	V	3.0	35.7	1.0	-56.6	-13.0	-43.6	
3435.00	-23.6	H	3.0	36.1	1.0	-58.7	-13.0	-45.7	
5152.50	-23.1	H	3.0	35.4	1.0	-57.6	-13.0	-44.6	
6870.00	-21.6	H	3.0	35.7	1.0	-56.2	-13.0	-43.2	
Mid Ch, 1732.5MHz									
3465.00	-24.9	V	3.0	36.0	1.0	-59.9	-13.0	-46.9	
5197.50	-23.8	V	3.0	35.4	1.0	-58.2	-13.0	-45.2	
6930.00	-23.5	V	3.0	35.7	1.0	-58.1	-13.0	-45.1	
3465.00	-26.1	H	3.0	36.0	1.0	-61.1	-13.0	-48.1	
5197.50	-19.7	H	3.0	35.4	1.0	-54.1	-13.0	-41.1	
6930.00	-21.7	H	3.0	35.7	1.0	-56.4	-13.0	-43.4	
High Ch, 1747.5MHz									
3495.00	-25.7	V	3.0	36.0	1.0	-60.7	-13.0	-47.7	
5242.50	-24.1	V	3.0	35.4	1.0	-58.5	-13.0	-45.5	
6990.00	-21.5	V	3.0	35.7	1.0	-56.2	-13.0	-43.2	
3495.00	-25.3	H	3.0	36.0	1.0	-60.3	-13.0	-47.3	
5242.50	-22.7	H	3.0	35.4	1.0	-57.1	-13.0	-44.1	
6990.00	-21.9	H	3.0	35.7	1.0	-56.6	-13.0	-43.6	

LTE B4 15MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1717.5MHz									
3435.00	-26.1	V	3.0	36.1	1.0	-61.1	-13.0	-48.1	
5152.50	-22.9	V	3.0	35.4	1.0	-57.4	-13.0	-44.4	
6870.00	-22.9	V	3.0	35.7	1.0	-57.5	-13.0	-44.5	
3435.00	-24.7	H	3.0	36.1	1.0	-59.7	-13.0	-46.7	
5152.50	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6870.00	-21.6	H	3.0	35.7	1.0	-56.3	-13.0	-43.3	
Mid Ch, 1732.5MHz									
3465.00	-25.8	V	3.0	36.0	1.0	-60.8	-13.0	-47.8	
5197.50	-23.4	V	3.0	35.4	1.0	-57.8	-13.0	-44.8	
6930.00	-22.6	V	3.0	35.7	1.0	-57.2	-13.0	-44.2	
3465.00	-25.6	H	3.0	36.0	1.0	-60.7	-13.0	-47.7	
5197.50	-24.4	H	3.0	35.4	1.0	-58.8	-13.0	-45.8	
6930.00	-20.6	H	3.0	35.7	1.0	-55.3	-13.0	-42.3	
High Ch, 1747.5MHz									
3495.00	-26.3	V	3.0	36.0	1.0	-61.4	-13.0	-48.4	
5242.50	-23.9	V	3.0	35.4	1.0	-58.3	-13.0	-45.3	
6990.00	-22.4	V	3.0	35.7	1.0	-57.1	-13.0	-44.1	
3495.00	-25.4	H	3.0	36.0	1.0	-60.4	-13.0	-47.4	
5242.50	-23.4	H	3.0	35.4	1.0	-57.9	-13.0	-44.9	
6990.00	-22.2	H	3.0	35.7	1.0	-56.8	-13.0	-43.8	

LTE B4 15MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720MHz									
3440.00	-26.3	V	3.0	36.0	1.0	-61.4	-13.0	-48.4	
5160.00	-23.5	V	3.0	35.4	1.0	-57.9	-13.0	-44.9	
6880.00	-23.0	V	3.0	35.7	1.0	-57.7	-13.0	-44.7	
3440.00	-23.7	H	3.0	36.0	1.0	-58.8	-13.0	-45.8	
5160.00	-22.4	H	3.0	35.4	1.0	-56.8	-13.0	-43.8	
6880.00	-21.4	H	3.0	35.7	1.0	-56.1	-13.0	-43.1	
Mid Ch, 1732.5MHz									
3465.00	-26.3	V	3.0	36.0	1.0	-61.3	-13.0	-48.3	
5197.50	-24.5	V	3.0	35.4	1.0	-58.9	-13.0	-45.9	
6930.00	-23.1	V	3.0	35.7	1.0	-57.8	-13.0	-44.8	
3465.00	-24.9	H	3.0	36.0	1.0	-60.0	-13.0	-47.0	
5197.50	-22.0	H	3.0	35.4	1.0	-56.4	-13.0	-43.4	
6930.00	-20.7	H	3.0	35.7	1.0	-55.4	-13.0	-42.4	
High Ch, 1745MHz									
3490.00	-26.6	V	3.0	36.0	1.0	-61.6	-13.0	-48.6	
5235.00	-23.5	V	3.0	35.4	1.0	-57.9	-13.0	-44.9	
6980.00	-22.2	V	3.0	35.7	1.0	-56.9	-13.0	-43.9	
3490.00	-25.1	H	3.0	36.0	1.0	-60.1	-13.0	-47.1	
5235.00	-23.9	H	3.0	35.4	1.0	-58.3	-13.0	-45.3	
6980.00	-20.9	H	3.0	35.7	1.0	-55.5	-13.0	-42.5	

LTE B4 20MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1720MHz									
3440.00	-26.6	V	3.0	36.0	1.0	-61.6	-13.0	-48.6	
5160.00	-23.3	V	3.0	35.4	1.0	-57.7	-13.0	-44.7	
6880.00	-21.2	V	3.0	35.7	1.0	-55.8	-13.0	-42.8	
3440.00	-24.4	H	3.0	36.0	1.0	-59.4	-13.0	-46.4	
5160.00	-22.9	H	3.0	35.4	1.0	-57.3	-13.0	-44.3	
6880.00	-21.5	H	3.0	35.7	1.0	-56.2	-13.0	-43.2	
Mid Ch, 1732.5MHz									
3465.00	-25.9	V	3.0	36.0	1.0	-61.0	-13.0	-48.0	
5197.50	-23.6	V	3.0	35.4	1.0	-58.0	-13.0	-45.0	
6930.00	-22.4	V	3.0	35.7	1.0	-57.1	-13.0	-44.1	
3465.00	-25.3	H	3.0	36.0	1.0	-60.4	-13.0	-47.4	
5197.50	-22.1	H	3.0	35.4	1.0	-56.5	-13.0	-43.5	
6930.00	-21.3	H	3.0	35.7	1.0	-56.0	-13.0	-43.0	
High Ch, 1745MHz									
3490.00	-25.9	V	3.0	36.0	1.0	-60.9	-13.0	-47.9	
5235.00	-22.0	V	3.0	35.4	1.0	-56.4	-13.0	-43.4	
6980.00	-21.2	V	3.0	35.7	1.0	-57.9	-13.0	-44.9	
3490.00	-24.8	H	3.0	36.0	1.0	-59.8	-13.0	-46.8	
5235.00	-24.0	H	3.0	35.4	1.0	-58.4	-13.0	-45.4	
6980.00	-21.6	H	3.0	35.7	1.0	-56.3	-13.0	-43.3	

LTE B4 20MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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LTE Band 5

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 5 Harmonics, 1MHz 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,									
1649.40	-19.0	V	3.0	37.0	1.0	-55.0	-13.0	-42.0	
2474.10	-34.2	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
3298.80	-34.1	V	3.0	36.2	1.0	-69.2	-13.0	-56.2	
1649.40	-10.7	H	3.0	37.0	1.0	-46.7	-13.0	-33.7	
2474.10	-36.9	H	3.0	36.4	1.0	-72.3	-13.0	-59.3	
3298.80	-34.1	H	3.0	36.2	1.0	-69.3	-13.0	-56.3	
Mid Ch,									
1673.00	-22.9	V	3.0	37.0	1.0	-58.9	-13.0	-45.9	
2509.50	-34.8	V	3.0	36.4	1.0	-70.2	-13.0	-57.2	
3346.00	-33.6	V	3.0	36.1	1.0	-68.8	-13.0	-55.8	
1673.00	-17.7	H	3.0	37.0	1.0	-53.7	-13.0	-40.7	
2509.50	-36.0	H	3.0	36.4	1.0	-71.4	-13.0	-58.4	
3346.00	-33.7	H	3.0	36.1	1.0	-68.8	-13.0	-55.8	
High Ch,									
1696.60	-30.3	V	3.0	37.0	1.0	-66.2	-13.0	-53.2	
2544.90	-35.1	V	3.0	36.4	1.0	-70.6	-13.0	-57.6	
3393.20	-33.3	V	3.0	36.1	1.0	-68.4	-13.0	-55.4	
1696.60	-24.5	H	3.0	37.0	1.0	-60.5	-13.0	-47.5	
2544.90	-37.4	H	3.0	36.4	1.0	-72.8	-13.0	-59.8	
3393.20	-33.2	H	3.0	36.1	1.0	-68.3	-13.0	-55.3	

LTE B5 1.4MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 5 Harmonics, 1MHz 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,									
1649.40	-20.1	V	3.0	37.0	1.0	-56.1	-13.0	-43.1	
2474.10	-34.4	V	3.0	36.4	1.0	-69.9	-13.0	-56.9	
3298.80	-33.9	V	3.0	36.2	1.0	-69.0	-13.0	-56.0	
1649.40	-10.9	H	3.0	37.0	1.0	-46.9	-13.0	-33.9	
2474.10	-37.0	H	3.0	36.4	1.0	-72.4	-13.0	-59.4	
3298.80	-34.1	H	3.0	36.2	1.0	-69.3	-13.0	-56.3	
Mid Ch,									
1673.00	-23.8	V	3.0	37.0	1.0	-59.8	-13.0	-46.8	
2509.50	-34.9	V	3.0	36.4	1.0	-70.3	-13.0	-57.3	
3346.00	-33.6	V	3.0	36.1	1.0	-68.8	-13.0	-55.8	
1673.00	-18.2	H	3.0	37.0	1.0	-54.2	-13.0	-41.2	
2509.50	-36.9	H	3.0	36.4	1.0	-72.3	-13.0	-59.3	
3346.00	-33.7	H	3.0	36.1	1.0	-68.8	-13.0	-55.8	
High Ch,									
1696.60	-30.7	V	3.0	37.0	1.0	-66.6	-13.0	-53.6	
2544.90	-35.4	V	3.0	36.4	1.0	-70.9	-13.0	-57.9	
3393.20	-33.2	V	3.0	36.1	1.0	-68.3	-13.0	-55.3	
1696.60	-25.5	H	3.0	37.0	1.0	-61.5	-13.0	-48.5	
2544.90	-37.4	H	3.0	36.4	1.0	-72.8	-13.0	-59.8	
3393.20	-33.3	H	3.0	36.1	1.0	-68.4	-13.0	-55.4	

LTE B5 1.4MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1651.00	-19.5	V	3.0	37.0	1.0	-55.5	-13.0	-42.5	
2476.50	-34.1	V	3.0	36.4	1.0	-69.5	-13.0	-56.5	
3302.00	-33.9	V	3.0	36.2	1.0	-69.1	-13.0	-56.1	
1651.00	-12.1	H	3.0	37.0	1.0	-48.1	-13.0	-35.1	
2476.50	-36.7	H	3.0	36.4	1.0	-72.1	-13.0	-59.1	
3302.00	-34.2	H	3.0	36.2	1.0	-69.4	-13.0	-56.4	
Mid Ch,									
1673.00	-24.4	V	3.0	37.0	1.0	-60.4	-13.0	-47.4	
2509.50	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
3346.00	-33.5	V	3.0	36.1	1.0	-68.7	-13.0	-55.7	
1673.00	-17.9	H	3.0	37.0	1.0	-53.9	-13.0	-40.9	
2509.50	-36.5	H	3.0	36.4	1.0	-71.9	-13.0	-58.9	
3346.00	-33.6	H	3.0	36.1	1.0	-68.7	-13.0	-55.7	
High Ch,									
1695.00	-30.5	V	3.0	37.0	1.0	-66.5	-13.0	-53.5	
2542.50	-35.4	V	3.0	36.4	1.0	-70.8	-13.0	-57.8	
3390.00	-33.0	V	3.0	36.1	1.0	-68.1	-13.0	-55.1	
1695.00	-25.7	H	3.0	37.0	1.0	-61.7	-13.0	-48.7	
2542.50	-36.5	H	3.0	36.4	1.0	-71.9	-13.0	-58.9	
3390.00	-33.3	H	3.0	36.1	1.0	-68.4	-13.0	-55.4	

LTE B5 3MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1651.00	-20.2	V	3.0	37.0	1.0	-56.2	-13.0	-43.2	
2476.50	-34.6	V	3.0	36.4	1.0	-70.0	-13.0	-57.0	
3302.00	-34.0	V	3.0	36.2	1.0	-69.2	-13.0	-56.2	
1651.00	-11.8	H	3.0	37.0	1.0	-47.8	-13.0	-34.8	
2476.50	-36.8	H	3.0	36.4	1.0	-72.2	-13.0	-59.2	
3302.00	-34.2	H	3.0	36.2	1.0	-69.4	-13.0	-56.4	
Mid Ch,									
1673.00	-25.6	V	3.0	37.0	1.0	-61.6	-13.0	-48.6	
2509.50	-34.9	V	3.0	36.4	1.0	-70.3	-13.0	-57.3	
3346.00	-33.5	V	3.0	36.1	1.0	-68.7	-13.0	-55.7	
1673.00	-19.1	H	3.0	37.0	1.0	-55.1	-13.0	-42.1	
2509.50	-36.8	H	3.0	36.4	1.0	-72.2	-13.0	-59.2	
3346.00	-33.7	H	3.0	36.1	1.0	-68.8	-13.0	-55.8	
High Ch,									
1695.00	-31.5	V	3.0	37.0	1.0	-67.5	-13.0	-54.5	
2542.50	-35.5	V	3.0	36.4	1.0	-70.9	-13.0	-57.9	
3390.00	-33.1	V	3.0	36.1	1.0	-68.2	-13.0	-55.2	
1695.00	-26.0	H	3.0	37.0	1.0	-62.0	-13.0	-49.0	
2542.50	-37.5	H	3.0	36.4	1.0	-72.9	-13.0	-59.9	
3390.00	-33.3	H	3.0	36.1	1.0	-68.4	-13.0	-55.4	

LTE B5 3MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1653.00	-19.7	V	3.0	37.0	1.0	-55.7	-13.0	-42.7	
2479.50	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
3306.00	-34.0	V	3.0	36.1	1.0	-69.2	-13.0	-56.2	
1653.00	-10.7	H	3.0	37.0	1.0	-46.8	-13.0	-33.8	
2479.50	-36.7	H	3.0	36.4	1.0	-72.1	-13.0	-59.1	
3306.00	-34.3	H	3.0	36.1	1.0	-69.5	-13.0	-56.5	
Mid Ch,									
1673.00	-24.3	V	3.0	37.0	1.0	-60.3	-13.0	-47.3	
2509.50	-34.5	V	3.0	36.4	1.0	-69.9	-13.0	-56.9	
3346.00	-33.4	V	3.0	36.1	1.0	-68.6	-13.0	-55.6	
1673.00	-33.2	H	3.0	37.0	1.0	-69.2	-13.0	-56.2	
2509.50	-35.9	H	3.0	36.4	1.0	-71.3	-13.0	-58.3	
3346.00	-33.6	H	3.0	36.1	1.0	-68.7	-13.0	-55.7	
High Ch,									
1693.00	-30.6	V	3.0	37.0	1.0	-66.6	-13.0	-53.6	
2539.50	-35.4	V	3.0	36.4	1.0	-70.8	-13.0	-57.8	
3386.00	-33.1	V	3.0	36.1	1.0	-68.2	-13.0	-55.2	
1693.00	-30.9	H	3.0	37.0	1.0	-66.9	-13.0	-53.9	
2539.50	-36.2	H	3.0	36.4	1.0	-71.6	-13.0	-58.6	
3386.00	-33.3	H	3.0	36.1	1.0	-68.4	-13.0	-55.4	

LTE B5 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1653.00	-20.7	V	3.0	37.0	1.0	-56.7	-13.0	-43.7	
2479.50	-34.9	V	3.0	36.4	1.0	-70.3	-13.0	-57.3	
3306.00	-34.0	V	3.0	36.1	1.0	-69.2	-13.0	-56.2	
1653.00	-12.5	H	3.0	37.0	1.0	-48.6	-13.0	-35.6	
2479.50	-36.8	H	3.0	36.4	1.0	-72.2	-13.0	-59.2	
3306.00	-34.1	H	3.0	36.1	1.0	-69.3	-13.0	-56.3	
Mid Ch,									
1673.00	-25.3	V	3.0	37.0	1.0	-61.3	-13.0	-48.3	
2509.50	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
3346.00	-33.4	V	3.0	36.1	1.0	-68.6	-13.0	-55.6	
1673.00	-33.8	H	3.0	37.0	1.0	-69.8	-13.0	-56.8	
2509.50	-36.3	H	3.0	36.4	1.0	-71.7	-13.0	-58.7	
3346.00	-33.6	H	3.0	36.1	1.0	-68.7	-13.0	-55.7	
High Ch,									
1693.00	-31.0	V	3.0	37.0	1.0	-67.0	-13.0	-54.0	
2539.50	-35.4	V	3.0	36.4	1.0	-70.8	-13.0	-57.8	
3386.00	-33.0	V	3.0	36.1	1.0	-68.1	-13.0	-55.1	
1693.00	-31.2	H	3.0	37.0	1.0	-67.2	-13.0	-54.2	
2539.50	-36.0	H	3.0	36.4	1.0	-71.4	-13.0	-58.4	
3386.00	-33.2	H	3.0	36.1	1.0	-68.3	-13.0	-55.3	

LTE B5 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1658.00	-25.0	V	3.0	37.0	1.0	-61.0	-13.0	-48.0	
2487.00	-33.3	V	3.0	36.4	1.0	-68.7	-13.0	-55.7	
3316.00	-34.0	V	3.0	36.1	1.0	-69.2	-13.0	-56.2	
1658.00	-21.5	H	3.0	37.0	1.0	-57.5	-13.0	-44.5	
2487.00	-36.7	H	3.0	36.4	1.0	-72.1	-13.0	-59.1	
3316.00	-34.2	H	3.0	36.1	1.0	-69.3	-13.0	-56.3	
Mid Ch,									
1673.00	-33.8	V	3.0	37.0	1.0	-69.8	-13.0	-56.8	
2509.50	-34.3	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
3346.00	-33.4	V	3.0	36.1	1.0	-68.6	-13.0	-55.6	
1673.00	-28.0	H	3.0	37.0	1.0	-64.0	-13.0	-51.0	
2509.50	-36.8	H	3.0	36.4	1.0	-72.2	-13.0	-59.2	
3346.00	-33.6	H	3.0	36.1	1.0	-68.7	-13.0	-55.7	
High Ch,									
1688.00	-30.3	V	3.0	37.0	1.0	-66.3	-13.0	-53.3	
2532.00	-32.9	V	3.0	36.4	1.0	-68.3	-13.0	-55.3	
3376.00	-33.0	V	3.0	36.1	1.0	-68.1	-13.0	-55.1	
1688.00	-29.9	H	3.0	37.0	1.0	-65.9	-13.0	-52.9	
2532.00	-37.1	H	3.0	36.4	1.0	-72.5	-13.0	-59.5	
3376.00	-33.2	H	3.0	36.1	1.0	-68.3	-13.0	-55.3	

LTE B5 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1658.00	-26.3	V	3.0	37.0	1.0	-62.3	-13.0	-49.3	
2487.00	-33.7	V	3.0	36.4	1.0	-69.1	-13.0	-56.1	
3316.00	-34.1	V	3.0	36.1	1.0	-69.3	-13.0	-56.3	
1658.00	-22.4	H	3.0	37.0	1.0	-58.4	-13.0	-45.4	
2487.00	-36.4	H	3.0	36.4	1.0	-71.8	-13.0	-58.8	
3316.00	-34.3	H	3.0	36.1	1.0	-69.4	-13.0	-56.4	
Mid Ch,									
1673.00	-34.2	V	3.0	37.0	1.0	-70.2	-13.0	-57.2	
2509.50	-34.8	V	3.0	36.4	1.0	-70.2	-13.0	-57.2	
3346.00	-33.4	V	3.0	36.1	1.0	-68.6	-13.0	-55.6	
1673.00	-29.1	H	3.0	37.0	1.0	-65.1	-13.0	-52.1	
2509.50	-36.6	H	3.0	36.4	1.0	-72.0	-13.0	-59.0	
3346.00	-33.7	H	3.0	36.1	1.0	-68.8	-13.0	-55.8	
High Ch,									
1688.00	-31.6	V	3.0	37.0	1.0	-67.6	-13.0	-54.6	
2532.00	-33.5	V	3.0	36.4	1.0	-68.9	-13.0	-55.9	
3376.00	-33.2	V	3.0	36.1	1.0	-68.3	-13.0	-55.3	
1688.00	-31.3	H	3.0	37.0	1.0	-67.3	-13.0	-54.3	
2532.00	-37.2	H	3.0	36.4	1.0	-72.6	-13.0	-59.6	
3376.00	-33.2	H	3.0	36.1	1.0	-68.3	-13.0	-55.3	

LTE B5 10MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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LTE Band 7

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + charger
Location: Chamber C
Mode: LTE_QPSK Band 7 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, 2502.5									
5005.00	-14.8	V	3.0	33.2	1.0	-47.1	-25.0	-22.1	
7507.50	-13.1	V	3.0	32.8	1.0	-44.9	-25.0	-19.9	
10010.00	-10.9	V	3.0	32.8	1.0	-42.7	-25.0	-17.7	
5005.00	-13.8	H	3.0	33.2	1.0	-46.0	-25.0	-21.0	
7507.50	-13.5	H	3.0	32.8	1.0	-45.4	-25.0	-20.4	
10010.00	-11.8	H	3.0	32.8	1.0	-43.6	-25.0	-18.6	
Mid Ch, 2535									
5070.00	-15.6	V	3.0	33.2	1.0	-47.8	-25.0	-22.8	
7605.00	-13.5	V	3.0	32.8	1.0	-45.4	-25.0	-20.4	
10140.00	-11.7	V	3.0	32.7	1.0	-43.3	-25.0	-18.3	
5070.00	-14.7	H	3.0	33.2	1.0	-46.9	-25.0	-21.9	
7605.00	-13.6	H	3.0	32.8	1.0	-45.5	-25.0	-20.5	
10140.00	-11.2	H	3.0	32.7	1.0	-42.8	-25.0	-17.8	
High Ch, 2567.5									
5135.00	-15.4	V	3.0	33.2	1.0	-47.5	-25.0	-22.5	
7702.50	-13.2	V	3.0	32.8	1.0	-45.1	-25.0	-20.1	
10270.00	-11.4	V	3.0	32.6	1.0	-43.0	-25.0	-18.0	
5135.00	-14.3	H	3.0	33.2	1.0	-46.5	-25.0	-21.5	
7702.50	-13.2	H	3.0	32.8	1.0	-45.0	-25.0	-20.0	
10270.00	-11.8	H	3.0	32.6	1.0	-43.4	-25.0	-18.4	

LTE B7 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + charger
Location: Chamber C
Mode: LTE_16QAM Band 7 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, 2502.5									
5005.00	-13.9	V	3.0	33.2	1.0	-46.2	-25.0	-21.2	
7507.50	-10.9	V	3.0	32.8	1.0	-42.7	-25.0	-17.7	
10010.00	-10.1	V	3.0	32.8	1.0	-41.8	-25.0	-16.8	
5005.00	-12.8	H	3.0	33.2	1.0	-45.1	-25.0	-20.1	
7507.50	-11.5	H	3.0	32.8	1.0	-43.3	-25.0	-18.3	
10010.00	-9.7	H	3.0	32.8	1.0	-41.4	-25.0	-16.4	
Mid Ch, 2535									
5070.00	-14.0	V	3.0	33.2	1.0	-46.2	-25.0	-21.2	
7605.00	-11.1	V	3.0	32.8	1.0	-42.9	-25.0	-17.9	
10140.00	-9.2	V	3.0	32.7	1.0	-40.9	-25.0	-15.9	
5070.00	-13.5	H	3.0	33.2	1.0	-45.7	-25.0	-20.7	
7605.00	-11.8	H	3.0	32.8	1.0	-43.6	-25.0	-18.6	
10140.00	-9.6	H	3.0	32.7	1.0	-41.3	-25.0	-16.3	
High Ch, 2567.5									
5135.00	-13.0	V	3.0	33.2	1.0	-45.2	-25.0	-20.2	
7702.50	-9.8	V	3.0	32.8	1.0	-41.6	-25.0	-16.6	
10270.00	-9.7	V	3.0	32.6	1.0	-41.2	-25.0	-16.2	
5135.00	-12.5	H	3.0	33.2	1.0	-44.7	-25.0	-19.7	
7702.50	-11.2	H	3.0	32.8	1.0	-43.0	-25.0	-18.0	
10270.00	-9.4	H	3.0	32.6	1.0	-41.0	-25.0	-16.0	

LTE B7 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 7 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, 2502.5									
5005.00	-14.7	V	3.0	33.2	1.0	-46.9	-25.0	-21.9	
7507.50	-13.0	V	3.0	32.8	1.0	-44.8	-25.0	-19.8	
10010.00	-10.9	V	3.0	32.8	1.0	-42.7	-25.0	-17.7	
5005.00	-14.5	H	3.0	33.2	1.0	-46.7	-25.0	-21.7	
7507.50	-13.4	H	3.0	32.8	1.0	-45.3	-25.0	-20.3	
10010.00	-11.3	H	3.0	32.8	1.0	-43.0	-25.0	-18.0	
Mid Ch, 2535									
5070.00	-14.9	V	3.0	33.2	1.0	-47.1	-25.0	-22.1	
7605.00	-12.9	V	3.0	32.8	1.0	-44.7	-25.0	-19.7	
10140.00	-10.6	V	3.0	32.7	1.0	-42.3	-25.0	-17.3	
5070.00	-14.5	H	3.0	33.2	1.0	-46.7	-25.0	-21.7	
7605.00	-13.6	H	3.0	32.8	1.0	-45.5	-25.0	-20.5	
10140.00	-10.9	H	3.0	32.7	1.0	-42.6	-25.0	-17.6	
High Ch, 2567.5									
5135.00	-13.8	V	3.0	33.2	1.0	-46.0	-25.0	-21.0	
7702.50	-12.2	V	3.0	32.8	1.0	-44.1	-25.0	-19.1	
10270.00	-11.3	V	3.0	32.6	1.0	-42.9	-25.0	-17.9	
5135.00	-14.0	H	3.0	33.2	1.0	-46.2	-25.0	-21.2	
7702.50	-13.5	H	3.0	32.8	1.0	-45.3	-25.0	-20.3	
10270.00	-11.6	H	3.0	32.6	1.0	-43.2	-25.0	-18.2	

LTE B7 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 7 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2505									
5010.00	-13.8	V	3.0	33.2	1.0	-46.1	-25.0	-21.1	
7515.00	-10.9	V	3.0	32.8	1.0	-42.7	-25.0	-17.7	
10020.00	-9.7	V	3.0	32.8	1.0	-41.5	-25.0	-16.5	
5010.00	-13.0	H	3.0	33.2	1.0	-45.3	-25.0	-20.3	
7515.00	-11.3	H	3.0	32.8	1.0	-43.1	-25.0	-18.1	
10020.00	-9.6	H	3.0	32.8	1.0	-41.4	-25.0	-16.4	
Mid Ch, 2535									
5070.00	-14.1	V	3.0	33.2	1.0	-46.3	-25.0	-21.3	
7605.00	-10.7	V	3.0	32.8	1.0	-42.5	-25.0	-17.5	
10140.00	-9.4	V	3.0	32.7	1.0	-41.1	-25.0	-16.1	
5070.00	-13.8	H	3.0	33.2	1.0	-46.0	-25.0	-21.0	
7605.00	-11.8	H	3.0	32.8	1.0	-43.6	-25.0	-18.6	
10140.00	-9.5	H	3.0	32.7	1.0	-41.1	-25.0	-16.1	
High Ch, 2565									
5130.00	-13.9	V	3.0	33.2	1.0	-46.1	-25.0	-21.1	
7695.00	-10.3	V	3.0	32.8	1.0	-42.1	-25.0	-17.1	
10260.00	-9.4	V	3.0	32.6	1.0	-41.0	-25.0	-16.0	
5130.00	-13.1	H	3.0	33.2	1.0	-45.3	-25.0	-20.3	
7695.00	-10.5	H	3.0	32.8	1.0	-42.3	-25.0	-17.3	
10260.00	-9.0	H	3.0	32.6	1.0	-40.6	-25.0	-15.6	

LTE B7 10MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_QPSK Band 7 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2507.5									
5015.00	-15.6	V	3.0	33.2	1.0	-47.8	-25.0	-22.8	
7522.50	-12.9	V	3.0	32.8	1.0	-44.7	-25.0	-19.7	
10030.00	-10.8	V	3.0	32.8	1.0	-42.6	-25.0	-17.6	
5015.00	-15.3	H	3.0	33.2	1.0	-47.6	-25.0	-22.6	
7522.50	-12.4	H	3.0	32.8	1.0	-44.3	-25.0	-19.3	
10030.00	-10.5	H	3.0	32.8	1.0	-42.2	-25.0	-17.2	
Mid Ch, 2535									
5070.00	-15.5	V	3.0	33.2	1.0	-47.8	-25.0	-22.8	
7605.00	-13.6	V	3.0	32.8	1.0	-45.5	-25.0	-20.5	
10140.00	-10.8	V	3.0	32.7	1.0	-42.5	-25.0	-17.5	
5070.00	-15.6	H	3.0	33.2	1.0	-47.8	-25.0	-22.8	
7605.00	-12.9	H	3.0	32.8	1.0	-44.7	-25.0	-19.7	
10140.00	-11.5	H	3.0	32.7	1.0	-43.2	-25.0	-18.2	
High Ch, 2562.5									
5125.00	-15.3	V	3.0	33.2	1.0	-47.5	-25.0	-22.5	
7687.50	-12.2	V	3.0	32.8	1.0	-44.0	-25.0	-19.0	
10250.00	-10.6	V	3.0	32.6	1.0	-42.2	-25.0	-17.2	
5125.00	-14.9	H	3.0	33.2	1.0	-47.1	-25.0	-22.1	
7687.50	-12.4	H	3.0	32.8	1.0	-44.2	-25.0	-19.2	
10250.00	-11.5	H	3.0	32.6	1.0	-43.1	-25.0	-18.1	

LTE B7 15MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 7 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2507.5									
5015.00	-13.9	V	3.0	33.2	1.0	-46.1	-25.0	-21.1	
7522.50	-10.6	V	3.0	32.8	1.0	-42.4	-25.0	-17.4	
10030.00	-9.4	V	3.0	32.8	1.0	-41.1	-25.0	-16.1	
5015.00	-12.8	H	3.0	33.2	1.0	-45.1	-25.0	-20.1	
7522.50	-11.6	H	3.0	32.8	1.0	-43.5	-25.0	-18.5	
10030.00	-9.8	H	3.0	32.8	1.0	-41.6	-25.0	-16.6	
Mid Ch, 2535									
5070.00	-14.1	V	3.0	33.2	1.0	-46.3	-25.0	-21.3	
7605.00	-10.2	V	3.0	32.8	1.0	-42.0	-25.0	-17.0	
10140.00	-9.2	V	3.0	32.7	1.0	-40.8	-25.0	-15.8	
5070.00	-13.2	H	3.0	33.2	1.0	-45.4	-25.0	-20.4	
7605.00	-11.9	H	3.0	32.8	1.0	-43.7	-25.0	-18.7	
10140.00	-9.2	H	3.0	32.7	1.0	-40.9	-25.0	-15.9	
High Ch, 2562.5									
5125.00	-13.6	V	3.0	33.2	1.0	-45.8	-25.0	-20.8	
7687.50	-9.7	V	3.0	32.8	1.0	-41.6	-25.0	-16.6	
10250.00	-8.8	V	3.0	32.6	1.0	-40.5	-25.0	-15.5	
5125.00	-12.9	H	3.0	33.2	1.0	-45.1	-25.0	-20.1	
7687.50	-10.8	H	3.0	32.8	1.0	-42.6	-25.0	-17.6	
10250.00	-9.1	H	3.0	32.6	1.0	-40.7	-25.0	-15.7	

LTE B7 15MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_QPSK Band 7 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2510									
5020.00	-14.7	V	3.0	33.2	1.0	-46.9	-25.0	-21.9	
7530.00	-12.9	V	3.0	32.8	1.0	-44.8	-25.0	-19.8	
10040.00	-10.8	V	3.0	32.7	1.0	-42.6	-25.0	-17.6	
5020.00	-14.4	H	3.0	33.2	1.0	-46.6	-25.0	-21.6	
7530.00	-13.0	H	3.0	32.8	1.0	-44.9	-25.0	-19.9	
10040.00	-11.7	H	3.0	32.7	1.0	-43.4	-25.0	-18.4	
Mid Ch, 2535									
5070.00	-15.2	V	3.0	33.2	1.0	-47.4	-25.0	-22.4	
7605.00	-12.6	V	3.0	32.8	1.0	-44.4	-25.0	-19.4	
10140.00	-9.4	V	3.0	32.7	1.0	-41.1	-25.0	-16.1	
5070.00	-15.0	H	3.0	33.2	1.0	-47.2	-25.0	-22.2	
7605.00	-12.7	H	3.0	32.8	1.0	-44.5	-25.0	-19.5	
10140.00	-10.7	H	3.0	32.7	1.0	-42.4	-25.0	-17.4	
High Ch, 2560									
5120.00	-14.4	V	3.0	33.2	1.0	-46.6	-25.0	-21.6	
7680.00	-12.3	V	3.0	32.8	1.0	-44.2	-25.0	-19.2	
10240.00	-10.1	V	3.0	32.6	1.0	-41.7	-25.0	-16.7	
5120.00	-14.0	H	3.0	33.2	1.0	-46.2	-25.0	-21.2	
7680.00	-12.9	H	3.0	32.8	1.0	-44.8	-25.0	-19.8	
10240.00	-10.6	H	3.0	32.6	1.0	-42.2	-25.0	-17.2	

LTE B7 20MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/14/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 7 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2510									
5020.00	-13.9	V	3.0	33.2	1.0	-46.1	-25.0	-21.1	
7530.00	-10.3	V	3.0	32.8	1.0	-42.2	-25.0	-17.2	
10040.00	-9.7	V	3.0	32.7	1.0	-41.4	-25.0	-16.4	
5020.00	-13.0	H	3.0	33.2	1.0	-45.3	-25.0	-20.3	
7530.00	-10.9	H	3.0	32.8	1.0	-42.7	-25.0	-17.7	
10040.00	-9.5	H	3.0	32.7	1.0	-41.2	-25.0	-16.2	
Mid Ch, 2535									
5070.00	-14.3	V	3.0	33.2	1.0	-46.5	-25.0	-21.5	
7605.00	-10.7	V	3.0	32.8	1.0	-42.6	-25.0	-17.6	
10140.00	-9.3	V	3.0	32.7	1.0	-41.0	-25.0	-16.0	
5070.00	-13.6	H	3.0	33.2	1.0	-45.9	-25.0	-20.9	
7605.00	-11.5	H	3.0	32.8	1.0	-43.4	-25.0	-18.4	
10140.00	-8.6	H	3.0	32.7	1.0	-40.3	-25.0	-15.3	
High Ch, 2560									
5120.00	-13.4	V	3.0	33.2	1.0	-45.6	-25.0	-20.6	
7680.00	-10.7	V	3.0	32.8	1.0	-42.6	-25.0	-17.6	
10240.00	-9.8	V	3.0	32.6	1.0	-41.4	-25.0	-16.4	
5120.00	-12.7	H	3.0	33.2	1.0	-44.9	-25.0	-19.9	
7680.00	-11.1	H	3.0	32.8	1.0	-42.9	-25.0	-17.9	
10240.00	-9.2	H	3.0	32.6	1.0	-40.8	-25.0	-15.8	

LTE B7 20MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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LTE Band 12

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1399.40	-16.9	V	3.0	37.4	1.0	-53.3	-13.0	-40.3	
2099.10	-29.1	V	3.0	36.6	1.0	-64.7	-13.0	-51.7	
2798.80	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
1399.40	-17.3	H	3.0	37.4	1.0	-53.7	-13.0	-40.7	
2099.10	-34.8	H	3.0	36.6	1.0	-70.4	-13.0	-57.4	
2798.80	-35.0	H	3.0	36.4	1.0	-70.4	-13.0	-57.4	
Mid Ch,									
1415.00	-9.2	V	3.0	37.4	1.0	-45.6	-13.0	-32.6	
2122.50	-26.4	V	3.0	36.6	1.0	-62.0	-13.0	-49.0	
2830.00	-33.9	V	3.0	36.4	1.0	-69.3	-13.0	-56.3	
1415.00	-13.3	H	3.0	37.4	1.0	-49.7	-13.0	-36.7	
2122.50	-35.2	H	3.0	36.6	1.0	-70.8	-13.0	-57.8	
2830.00	-34.4	H	3.0	36.4	1.0	-69.8	-13.0	-56.8	
High Ch,									
1430.60	-9.5	V	3.0	37.3	1.0	-45.8	-13.0	-32.8	
2145.90	-25.2	V	3.0	36.6	1.0	-60.7	-13.0	-47.7	
2861.20	-34.1	V	3.0	36.4	1.0	-69.5	-13.0	-56.5	
1430.60	-10.9	H	3.0	37.3	1.0	-47.3	-13.0	-34.3	
2145.90	-33.6	H	3.0	36.6	1.0	-69.1	-13.0	-56.1	
2861.20	-35.0	H	3.0	36.4	1.0	-70.4	-13.0	-57.4	

LTE B12 1.4MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 12 Harmonics, 1MHz 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,									
1399.40	-18.2	V	3.0	37.4	1.0	-54.6	-13.0	-41.6	
2099.10	-29.9	V	3.0	36.6	1.0	-65.5	-13.0	-52.5	
2798.80	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
1399.40	-18.1	H	3.0	37.4	1.0	-54.5	-13.0	-41.5	
2099.10	-35.4	H	3.0	36.6	1.0	-71.0	-13.0	-58.0	
2798.80	-35.5	H	3.0	36.4	1.0	-70.9	-13.0	-57.9	
Mid Ch,									
1415.00	-15.1	V	3.0	37.4	1.0	-51.5	-13.0	-38.5	
2122.50	-25.8	V	3.0	36.6	1.0	-61.4	-13.0	-48.4	
2830.00	-34.2	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1415.00	-14.4	H	3.0	37.4	1.0	-50.8	-13.0	-37.8	
2122.50	-34.9	H	3.0	36.6	1.0	-70.5	-13.0	-57.5	
2830.00	-34.8	H	3.0	36.4	1.0	-70.2	-13.0	-57.2	
High Ch,									
1430.60	-11.3	V	3.0	37.3	1.0	-47.6	-13.0	-34.6	
2145.90	-25.2	V	3.0	36.6	1.0	-60.7	-13.0	-47.7	
2861.20	-34.5	V	3.0	36.4	1.0	-69.9	-13.0	-56.9	
1430.60	-11.9	H	3.0	37.3	1.0	-48.3	-13.0	-35.3	
2145.90	-33.7	H	3.0	36.6	1.0	-69.2	-13.0	-56.2	
2861.20	-35.1	H	3.0	36.4	1.0	-70.5	-13.0	-57.5	

LTE B12 1.4MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1401.00	-15.6	V	3.0	37.4	1.0	-52.0	-13.0	-39.0	
2101.50	-28.9	V	3.0	36.6	1.0	-64.5	-13.0	-51.5	
2802.00	-34.5	V	3.0	36.4	1.0	-69.9	-13.0	-56.9	
1401.00	-17.0	H	3.0	37.4	1.0	-53.3	-13.0	-40.3	
2101.50	-34.7	H	3.0	36.6	1.0	-70.3	-13.0	-57.3	
2802.00	-34.9	H	3.0	36.4	1.0	-70.3	-13.0	-57.3	
Mid Ch,									
1415.00	-13.8	V	3.0	37.4	1.0	-50.2	-13.0	-37.2	
2122.50	-27.4	V	3.0	36.6	1.0	-63.0	-13.0	-50.0	
2830.00	-34.3	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
1415.00	-13.6	H	3.0	37.4	1.0	-50.0	-13.0	-37.0	
2122.50	-34.6	H	3.0	36.6	1.0	-70.2	-13.0	-57.2	
2830.00	-34.3	H	3.0	36.4	1.0	-69.7	-13.0	-56.7	
High Ch,									
1429.00	-11.4	V	3.0	37.3	1.0	-47.7	-13.0	-34.7	
2143.50	-24.7	V	3.0	36.6	1.0	-60.2	-13.0	-47.2	
2858.00	-34.3	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
1429.00	-11.6	H	3.0	37.3	1.0	-48.0	-13.0	-35.0	
2143.50	-33.3	H	3.0	36.6	1.0	-68.8	-13.0	-55.8	
2858.00	-35.1	H	3.0	36.4	1.0	-70.5	-13.0	-57.5	

LTE B12 3MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1401.00	-17.3	V	3.0	37.4	1.0	-53.7	-13.0	-40.7	
2101.50	-29.7	V	3.0	36.6	1.0	-65.3	-13.0	-52.3	
2802.00	-34.4	V	3.0	36.4	1.0	-69.8	-13.0	-56.8	
1401.00	-17.6	H	3.0	37.4	1.0	-53.9	-13.0	-40.9	
2101.50	-34.4	H	3.0	36.6	1.0	-70.0	-13.0	-57.0	
2802.00	-35.5	H	3.0	36.4	1.0	-70.9	-13.0	-57.9	
Mid Ch,									
1415.00	-14.5	V	3.0	37.4	1.0	-50.9	-13.0	-37.9	
2122.50	-28.4	V	3.0	36.6	1.0	-64.0	-13.0	-51.0	
2830.00	-34.3	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
1415.00	-14.5	H	3.0	37.4	1.0	-50.9	-13.0	-37.9	
2122.50	-34.8	H	3.0	36.6	1.0	-70.4	-13.0	-57.4	
2830.00	-34.7	H	3.0	36.4	1.0	-70.1	-13.0	-57.1	
High Ch,									
1429.00	-12.0	V	3.0	37.3	1.0	-48.3	-13.0	-35.3	
2143.50	-25.6	V	3.0	36.6	1.0	-61.1	-13.0	-48.1	
2858.00	-34.2	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1429.00	-12.9	H	3.0	37.3	1.0	-49.3	-13.0	-36.3	
2143.50	-33.7	H	3.0	36.6	1.0	-69.2	-13.0	-56.2	
2858.00	-35.1	H	3.0	36.4	1.0	-70.5	-13.0	-57.5	

LTE B12 3MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1403.00	-17.5	V	3.0	37.4	1.0	-53.9	-13.0	-40.9	
2104.50	-29.7	V	3.0	36.6	1.0	-65.3	-13.0	-52.3	
2806.00	-34.7	V	3.0	36.4	1.0	-70.1	-13.0	-57.1	
1403.00	-17.5	H	3.0	37.4	1.0	-53.9	-13.0	-40.9	
2104.50	-35.1	H	3.0	36.6	1.0	-70.7	-13.0	-57.7	
2806.00	-34.5	H	3.0	36.4	1.0	-69.9	-13.0	-56.9	
Mid Ch,									
1415.00	-14.2	V	3.0	37.4	1.0	-50.6	-13.0	-37.6	
2122.50	-27.0	V	3.0	36.6	1.0	-62.6	-13.0	-49.6	
2830.00	-34.2	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1415.00	-14.0	H	3.0	37.4	1.0	-50.4	-13.0	-37.4	
2122.50	-31.3	H	3.0	36.6	1.0	-66.9	-13.0	-53.9	
2830.00	-34.6	H	3.0	36.4	1.0	-70.0	-13.0	-57.0	
High Ch,									
1427.00	-12.3	V	3.0	37.3	1.0	-48.6	-13.0	-35.6	
2140.50	-24.0	V	3.0	36.6	1.0	-59.5	-13.0	-46.5	
2854.00	-34.3	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1427.00	-12.5	H	3.0	37.3	1.0	-48.8	-13.0	-35.8	
2140.50	-33.8	H	3.0	36.6	1.0	-69.3	-13.0	-56.3	
2854.00	-34.8	H	3.0	36.4	1.0	-70.2	-13.0	-57.2	

LTE B12 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1403.00	-18.2	V	3.0	37.4	1.0	-54.6	-13.0	-41.6	
2104.50	-29.9	V	3.0	36.6	1.0	-65.5	-13.0	-52.5	
2806.00	-33.5	V	3.0	36.4	1.0	-68.9	-13.0	-55.9	
1403.00	-17.7	H	3.0	37.4	1.0	-54.1	-13.0	-41.1	
2104.50	-34.8	H	3.0	36.6	1.0	-70.4	-13.0	-57.4	
2806.00	-35.1	H	3.0	36.4	1.0	-70.5	-13.0	-57.5	
Mid Ch,									
1415.00	-14.1	V	3.0	37.4	1.0	-50.5	-13.0	-37.5	
2122.50	-27.7	V	3.0	36.6	1.0	-63.3	-13.0	-50.3	
2830.00	-33.8	V	3.0	36.4	1.0	-69.2	-13.0	-56.2	
1415.00	-14.6	H	3.0	37.4	1.0	-51.0	-13.0	-38.0	
2122.50	-33.9	H	3.0	36.6	1.0	-69.5	-13.0	-56.5	
2830.00	-34.9	H	3.0	36.4	1.0	-70.3	-13.0	-57.3	
High Ch,									
1427.00	-11.1	V	3.0	37.3	1.0	-47.4	-13.0	-34.4	
2140.50	-24.3	V	3.0	36.6	1.0	-59.8	-13.0	-46.8	
2854.00	-34.3	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1427.00	-12.1	H	3.0	37.3	1.0	-48.4	-13.0	-35.4	
2140.50	-33.8	H	3.0	36.6	1.0	-69.3	-13.0	-56.3	
2854.00	-34.9	H	3.0	36.4	1.0	-70.3	-13.0	-57.3	

LTE B12 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1408.00	-16.0	V	3.0	37.4	1.0	-52.3	-13.0	-39.3	
2112.00	-27.9	V	3.0	36.6	1.0	-63.5	-13.0	-50.5	
2816.00	-34.4	V	3.0	36.4	1.0	-69.8	-13.0	-56.8	
1408.00	-16.2	H	3.0	37.4	1.0	-52.6	-13.0	-39.6	
2112.00	-35.0	H	3.0	36.6	1.0	-70.6	-13.0	-57.6	
2816.00	-34.8	H	3.0	36.4	1.0	-70.2	-13.0	-57.2	
Mid Ch,									
1415.00	-14.0	V	3.0	37.4	1.0	-50.4	-13.0	-37.4	
2122.50	-26.3	V	3.0	36.6	1.0	-61.9	-13.0	-48.9	
2830.00	-32.9	V	3.0	36.4	1.0	-68.3	-13.0	-55.3	
1415.00	-13.6	H	3.0	37.4	1.0	-50.0	-13.0	-37.0	
2122.50	-34.5	H	3.0	36.6	1.0	-70.1	-13.0	-57.1	
2830.00	-34.5	H	3.0	36.4	1.0	-69.9	-13.0	-56.9	
High Ch,									
1422.00	-12.5	V	3.0	37.3	1.0	-48.8	-13.0	-35.8	
2133.00	-24.7	V	3.0	36.6	1.0	-60.3	-13.0	-47.3	
2844.00	-34.3	V	3.0	36.4	1.0	-69.7	-13.0	-56.7	
1422.00	-12.0	H	3.0	37.3	1.0	-48.3	-13.0	-35.3	
2133.00	-34.2	H	3.0	36.6	1.0	-69.7	-13.0	-56.7	
2844.00	-34.2	H	3.0	36.4	1.0	-69.6	-13.0	-56.6	

LTE B12 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/11/2017
Test Engineer: 43575 OS
Configuration: EUT + AC Charger
Location: Chamber B
Mode: LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch,									
1408.00	-16.3	V	3.0	37.4	1.0	-52.6	-13.0	-39.6	
2112.00	-27.9	V	3.0	36.6	1.0	-63.5	-13.0	-50.5	
2816.00	-34.6	V	3.0	36.4	1.0	-70.0	-13.0	-57.0	
1408.00	-16.5	H	3.0	37.4	1.0	-52.9	-13.0	-39.9	
2112.00	-34.8	H	3.0	36.6	1.0	-70.4	-13.0	-57.4	
2816.00	-35.8	H	3.0	36.4	1.0	-71.2	-13.0	-58.2	
Mid Ch,									
1415.00	-15.8	V	3.0	37.4	1.0	-52.2	-13.0	-39.2	
2122.50	-27.4	V	3.0	36.6	1.0	-63.0	-13.0	-50.0	
2830.00	-33.8	V	3.0	36.4	1.0	-69.2	-13.0	-56.2	
1415.00	-14.5	H	3.0	37.4	1.0	-50.9	-13.0	-37.9	
2122.50	-34.8	H	3.0	36.6	1.0	-70.4	-13.0	-57.4	
2830.00	-34.9	H	3.0	36.4	1.0	-70.3	-13.0	-57.3	
High Ch,									
1422.00	-13.0	V	3.0	37.3	1.0	-49.3	-13.0	-36.3	
2133.00	-24.5	V	3.0	36.6	1.0	-60.1	-13.0	-47.1	
2844.00	-34.2	V	3.0	36.4	1.0	-69.6	-13.0	-56.6	
1422.00	-13.0	H	3.0	37.3	1.0	-49.3	-13.0	-36.3	
2133.00	-34.7	H	3.0	36.6	1.0	-70.2	-13.0	-57.2	
2844.00	-34.3	H	3.0	36.4	1.0	-69.7	-13.0	-56.7	

LTE B12 10MHz 16QAM

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LTE Band 13

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT + AC Adapter + Headset
Location: Chamber A
Mode: LTE_QPSK Band 13 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5									
1559.00	-10.8	V	3.0	37.1	1.0	-46.9	-13.0	-33.9	
2338.50	-20.3	V	3.0	36.5	1.0	-55.8	-13.0	-42.8	
3118.00	-22.6	V	3.0	36.3	1.0	-57.9	-13.0	-44.9	
1559.00	-7.7	H	3.0	37.1	1.0	-43.8	-13.0	-30.8	
2338.50	-18.3	H	3.0	36.5	1.0	-53.8	-13.0	-40.8	
3118.00	-22.5	H	3.0	36.3	1.0	-57.8	-13.0	-44.8	
Mid Ch, 782 MHz									
1564.00	-10.7	V	3.0	37.1	1.0	-46.9	-13.0	-33.9	
2346.00	-20.9	V	3.0	36.5	1.0	-56.4	-13.0	-43.4	
3128.00	-23.2	V	3.0	36.3	1.0	-58.5	-13.0	-45.5	
1564.00	-7.8	H	3.0	37.1	1.0	-43.9	-13.0	-30.9	
2346.00	-19.8	H	3.0	36.5	1.0	-55.3	-13.0	-42.3	
3128.00	-23.4	H	3.0	36.3	1.0	-58.7	-13.0	-45.7	
High Ch, 784.5									
1569.00	-10.5	V	3.0	37.1	1.0	-46.6	-13.0	-33.6	
2353.50	-21.8	V	3.0	36.5	1.0	-57.3	-13.0	-44.3	
3138.00	-23.4	V	3.0	36.3	1.0	-58.7	-13.0	-45.7	
1569.00	-7.4	H	3.0	37.1	1.0	-43.5	-13.0	-30.5	
2353.50	-19.8	H	3.0	36.5	1.0	-55.3	-13.0	-42.3	
3138.00	-22.8	H	3.0	36.3	1.0	-58.1	-13.0	-45.1	

LTE B13 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only
Location: Chamber A
Mode: LTE_16QAM Band 13 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5									
1559.00	-11.6	V	3.0	37.1	1.0	-47.7	-13.0	-34.7	
2338.50	-20.3	V	3.0	36.5	1.0	-55.8	-13.0	-42.8	
3118.00	-23.8	V	3.0	36.3	1.0	-59.1	-13.0	-46.1	
1559.00	-8.0	H	3.0	37.1	1.0	-44.2	-13.0	-31.2	
2338.50	-18.5	H	3.0	36.5	1.0	-54.0	-13.0	-41.0	
3118.00	-23.4	H	3.0	36.3	1.0	-58.7	-13.0	-45.7	
Mid Ch, 782									
1564.00	-11.0	V	3.0	37.1	1.0	-47.1	-13.0	-34.1	
2346.00	-21.4	V	3.0	36.5	1.0	-56.9	-13.0	-43.9	
3128.00	-23.6	V	3.0	36.3	1.0	-58.9	-13.0	-45.9	
1564.00	-8.6	H	3.0	37.1	1.0	-44.7	-13.0	-31.7	
2346.00	-20.3	H	3.0	36.5	1.0	-55.8	-13.0	-42.8	
3128.00	-23.7	H	3.0	36.3	1.0	-59.0	-13.0	-46.0	
High Ch, 784.5									
1569.00	-11.2	V	3.0	37.1	1.0	-47.3	-13.0	-34.3	
2353.50	-22.0	V	3.0	36.5	1.0	-57.5	-13.0	-44.5	
3138.00	-23.6	V	3.0	36.3	1.0	-58.9	-13.0	-45.9	
1569.00	-7.8	H	3.0	37.1	1.0	-44.0	-13.0	-31.0	
2353.50	-20.3	H	3.0	36.5	1.0	-55.8	-13.0	-42.8	
3138.00	-23.2	H	3.0	36.3	1.0	-58.5	-13.0	-45.5	

LTE B13 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_QPSK Band 13 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, 782 MHz									
1564.00	-9.3	V	3.0	37.1	1.0	-45.4	-13.0	-32.4	
2346.00	-18.7	V	3.0	36.5	1.0	-54.2	-13.0	-41.2	
3128.00	-21.4	V	3.0	36.3	1.0	-56.7	-13.0	-43.7	
1564.00	-6.8	H	3.0	37.1	1.0	-42.9	-13.0	-29.9	
2346.00	-19.6	H	3.0	36.5	1.0	-55.1	-13.0	-42.1	
3128.00	-21.9	H	3.0	36.3	1.0	-57.2	-13.0	-44.2	

LTE B13 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: GE43578
Configuration: EUT Only (Y-Pos)
Location: Chamber A
Mode: LTE_16QAM Band 13 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, 782 MHz									
1564.00	-10.3	V	3.0	37.1	1.0	-46.5	-13.0	-33.5	
2346.00	-19.7	V	3.0	36.5	1.0	-55.2	-13.0	-42.2	
3128.00	-22.7	V	3.0	36.3	1.0	-58.0	-13.0	-45.0	
1564.00	-7.0	H	3.0	37.1	1.0	-43.1	-13.0	-30.1	
2346.00	-20.9	H	3.0	36.5	1.0	-56.4	-13.0	-43.4	
3128.00	-22.1	H	3.0	36.3	1.0	-57.4	-13.0	-44.4	

LTE B13 10MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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LTE Band 17

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

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_QPSK Band 17 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, 706.5									
1413.00	-27.6	V	3.0	37.4	1.0	-64.0	-13.0	-51.0	
2119.50	-19.4	V	3.0	36.6	1.0	-55.0	-13.0	-42.0	
2826.00	-48.6	V	3.0	36.4	1.0	-84.0	-13.0	-71.0	
1413.00	-27.5	H	3.0	37.4	1.0	-63.9	-13.0	-50.9	
2119.50	-20.2	H	3.0	36.6	1.0	-55.8	-13.0	-42.8	
2826.00	-20.1	H	3.0	36.4	1.0	-55.4	-13.0	-42.4	
Mid Ch, 710									
1420.00	-27.7	V	3.0	37.3	1.0	-64.0	-13.0	-51.0	
2130.00	-19.8	V	3.0	36.6	1.0	-55.4	-13.0	-42.4	
2840.00	-19.5	V	3.0	36.4	1.0	-54.9	-13.0	-41.9	
1420.00	-27.7	H	3.0	37.3	1.0	-64.1	-13.0	-51.1	
2130.00	-20.7	H	3.0	36.6	1.0	-56.3	-13.0	-43.3	
2840.00	-20.1	H	3.0	36.4	1.0	-55.5	-13.0	-42.5	
High Ch, 713.5									
1427.00	-27.5	V	3.0	37.3	1.0	-63.8	-13.0	-50.8	
2140.50	-19.5	V	3.0	36.6	1.0	-55.1	-13.0	-42.1	
2854.00	-19.3	V	3.0	36.4	1.0	-54.7	-13.0	-41.7	
1427.00	-27.6	H	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2140.50	-20.2	H	3.0	36.6	1.0	-55.8	-13.0	-42.8	
2854.00	-19.7	H	3.0	36.4	1.0	-55.0	-13.0	-42.0	

LTE B17 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 17 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, 706.5									
1413.00	-27.6	V	3.0	37.4	1.0	-63.9	-13.0	-50.9	
2119.50	-19.5	V	3.0	36.6	1.0	-55.0	-13.0	-42.0	
2826.00	-20.2	V	3.0	36.4	1.0	-55.6	-13.0	-42.6	
1413.00	-27.8	H	3.0	37.4	1.0	-64.2	-13.0	-51.2	
2119.50	-20.3	H	3.0	36.6	1.0	-55.8	-13.0	-42.8	
2826.00	-20.7	H	3.0	36.4	1.0	-56.1	-13.0	-43.1	
Mid Ch, 710									
1420.00	-27.5	V	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2130.00	-19.8	V	3.0	36.6	1.0	-55.4	-13.0	-42.4	
2840.00	-20.1	V	3.0	36.4	1.0	-55.5	-13.0	-42.5	
1420.00	-27.9	H	3.0	37.3	1.0	-64.3	-13.0	-51.3	
2130.00	-20.4	H	3.0	36.6	1.0	-55.9	-13.0	-42.9	
2840.00	-20.7	H	3.0	36.4	1.0	-56.1	-13.0	-43.1	
High Ch, 713.5									
1427.00	-27.5	V	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2140.50	-19.7	V	3.0	36.6	1.0	-55.3	-13.0	-42.3	
2854.00	-20.4	V	3.0	36.4	1.0	-55.7	-13.0	-42.7	
1427.00	-27.6	H	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2140.50	-20.6	H	3.0	36.6	1.0	-56.1	-13.0	-43.1	
2854.00	-20.7	H	3.0	36.4	1.0	-56.1	-13.0	-43.1	

LTE B17 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_QPSK Band 17 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-28.1	V	3.0	37.4	1.0	-64.4	-13.0	-51.4	
2127.00	-19.7	V	3.0	36.6	1.0	-55.2	-13.0	-42.2	
2836.00	-19.8	V	3.0	36.4	1.0	-55.2	-13.0	-42.2	
1418.00	-27.0	H	3.0	37.4	1.0	-63.3	-13.0	-50.3	
2127.00	-21.5	H	3.0	36.6	1.0	-57.1	-13.0	-44.1	
2836.00	-20.3	H	3.0	36.4	1.0	-55.7	-13.0	-42.7	
Mid Ch, 710									
1420.00	-28.4	V	3.0	37.3	1.0	-64.7	-13.0	-51.7	
2130.00	-19.7	V	3.0	36.6	1.0	-55.3	-13.0	-42.3	
2840.00	-20.1	V	3.0	36.4	1.0	-55.5	-13.0	-42.5	
1420.00	-27.0	H	3.0	37.3	1.0	-63.3	-13.0	-50.3	
2130.00	-21.2	H	3.0	36.6	1.0	-56.8	-13.0	-43.8	
2840.00	-20.6	H	3.0	36.4	1.0	-55.9	-13.0	-42.9	
High Ch, 711									
1422.00	-27.5	V	3.0	37.3	1.0	-63.9	-13.0	-50.9	
2133.00	-19.6	V	3.0	36.6	1.0	-55.1	-13.0	-42.1	
2844.00	-19.7	V	3.0	36.4	1.0	-55.1	-13.0	-42.1	
1422.00	-26.7	H	3.0	37.3	1.0	-63.0	-13.0	-50.0	
2133.00	-21.2	H	3.0	36.6	1.0	-56.7	-13.0	-43.7	
2844.00	-20.1	H	3.0	36.4	1.0	-55.5	-13.0	-42.5	

LTE B17 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/16/2017
Test Engineer: 43574 JS
Configuration: EUT + AC Charger
Location: Chamber C
Mode: LTE_16QAM Band 17 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709									
1418.00	-27.8	V	3.0	37.4	1.0	-64.2	-13.0	-51.2	
2127.00	-20.3	V	3.0	36.6	1.0	-55.8	-13.0	-42.8	
2836.00	-19.8	V	3.0	36.4	1.0	-55.2	-13.0	-42.2	
1418.00	-27.4	H	3.0	37.4	1.0	-63.7	-13.0	-50.7	
2127.00	-20.5	H	3.0	36.6	1.0	-56.1	-13.0	-43.1	
2836.00	-20.0	H	3.0	36.4	1.0	-55.4	-13.0	-42.4	
Mid Ch, 710									
1420.00	-28.3	V	3.0	37.3	1.0	-64.7	-13.0	-51.7	
2130.00	-20.4	V	3.0	36.6	1.0	-56.0	-13.0	-43.0	
2840.00	-20.3	V	3.0	36.4	1.0	-55.7	-13.0	-42.7	
1420.00	-27.5	H	3.0	37.3	1.0	-63.8	-13.0	-50.8	
2130.00	-21.0	H	3.0	36.6	1.0	-56.6	-13.0	-43.6	
2840.00	-20.3	H	3.0	36.4	1.0	-55.7	-13.0	-42.7	
High Ch, 711									
1422.00	-27.9	V	3.0	37.3	1.0	-64.3	-13.0	-51.3	
2133.00	-20.3	V	3.0	36.6	1.0	-55.9	-13.0	-42.9	
2844.00	-20.1	V	3.0	36.4	1.0	-55.4	-13.0	-42.4	
1422.00	-27.4	H	3.0	37.3	1.0	-63.7	-13.0	-50.7	
2133.00	-20.7	H	3.0	36.6	1.0	-56.3	-13.0	-43.3	
2844.00	-20.4	H	3.0	36.4	1.0	-55.7	-13.0	-42.7	

LTE B17 10MHz 16QAM

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LTE Band 41

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.50									
4997.00	-12.2	V	3.0	35.5	1.0	-46.6	-25.0	-21.6	
7495.50	-9.7	V	3.0	35.7	1.0	-44.4	-25.0	-19.4	
9994.00	-6.7	V	3.0	36.0	1.0	-41.7	-25.0	-16.7	
4997.00	-12.1	H	3.0	35.5	1.0	-46.6	-25.0	-21.6	
7495.50	-8.5	H	3.0	35.7	1.0	-43.3	-25.0	-18.3	
9994.00	-5.8	H	3.0	36.0	1.0	-40.8	-25.0	-15.8	
Mid Ch, 2593									
5186.00	-12.2	V	3.0	35.4	1.0	-46.7	-25.0	-21.7	
7779.00	-8.9	V	3.0	35.8	1.0	-43.7	-25.0	-18.7	
10372.00	-6.7	V	3.0	35.8	1.0	-41.5	-25.0	-16.5	
5186.00	-11.8	H	3.0	35.4	1.0	-46.2	-25.0	-21.2	
7779.00	-8.3	H	3.0	35.8	1.0	-43.1	-25.0	-18.1	
10372.00	-6.2	H	3.0	35.8	1.0	-41.1	-25.0	-16.1	
High Ch, 2687.50									
5375.00	-12.6	V	3.0	35.4	1.0	-47.0	-25.0	-22.0	
8062.50	-7.8	V	3.0	35.8	1.0	-42.6	-25.0	-17.6	
10750.00	-5.4	V	3.0	35.7	1.0	-40.1	-25.0	-15.1	
5375.00	-11.9	H	3.0	35.4	1.0	-46.4	-25.0	-21.4	
8062.50	-7.2	H	3.0	35.8	1.0	-42.0	-25.0	-17.0	
10750.00	-5.5	H	3.0	35.7	1.0	-40.2	-25.0	-15.2	

LTE B41 5MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT Only
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 5MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.50									
4997.00	-11.9	V	3.0	35.5	1.0	-46.4	-25.0	-21.4	
7495.50	-9.1	V	3.0	35.7	1.0	-43.9	-25.0	-18.9	
9994.00	-5.3	V	3.0	36.0	1.0	-40.3	-25.0	-15.3	
4997.00	-10.6	H	3.0	35.5	1.0	-45.1	-25.0	-20.1	
7495.50	-8.4	H	3.0	35.7	1.0	-43.1	-25.0	-18.1	
9994.00	-5.0	H	3.0	36.0	1.0	-40.0	-25.0	-15.0	
Mid Ch, 2593									
5186.00	-11.2	V	3.0	35.4	1.0	-45.7	-25.0	-20.7	
7779.00	-8.1	V	3.0	35.8	1.0	-42.9	-25.0	-17.9	
10372.00	-5.9	V	3.0	35.8	1.0	-40.8	-25.0	-15.8	
5186.00	-11.0	H	3.0	35.4	1.0	-45.4	-25.0	-20.4	
7779.00	-7.6	H	3.0	35.8	1.0	-42.4	-25.0	-17.4	
10372.00	-5.5	H	3.0	35.8	1.0	-40.3	-25.0	-15.3	
High Ch, 2687.50									
5375.00	-11.9	V	3.0	35.4	1.0	-46.3	-25.0	-21.3	
8062.50	-7.9	V	3.0	35.8	1.0	-42.7	-25.0	-17.7	
10750.00	-6.0	V	3.0	35.7	1.0	-40.7	-25.0	-15.7	
5375.00	-11.2	H	3.0	35.4	1.0	-45.6	-25.0	-20.6	
8062.50	-8.0	H	3.0	35.8	1.0	-42.8	-25.0	-17.8	
10750.00	-5.7	H	3.0	35.7	1.0	-40.3	-25.0	-15.3	

LTE B41 5MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501									
5002.00	-12.1	V	3.0	35.5	1.0	-46.6	-25.0	-21.6	
7503.00	-8.8	V	3.0	35.7	1.0	-43.6	-25.0	-18.6	
10040.00	-6.0	V	3.0	36.0	1.0	-41.0	-25.0	-16.0	
5002.00	-11.4	H	3.0	35.5	1.0	-45.8	-25.0	-20.8	
7503.00	-8.5	H	3.0	35.7	1.0	-43.3	-25.0	-18.3	
10040.00	-6.4	H	3.0	36.0	1.0	-41.4	-25.0	-16.4	
Mid Ch, 2593									
5186.00	-11.8	V	3.0	35.4	1.0	-46.2	-25.0	-21.2	
7779.00	-8.5	V	3.0	35.8	1.0	-43.2	-25.0	-18.2	
10372.00	-6.2	V	3.0	35.8	1.0	-41.0	-25.0	-16.0	
5186.00	-11.3	H	3.0	35.4	1.0	-45.7	-25.0	-20.7	
7779.00	-8.0	H	3.0	35.8	1.0	-42.8	-25.0	-17.8	
10372.00	-6.1	H	3.0	35.8	1.0	-40.9	-25.0	-15.9	
High Ch, 2685									
5370.00	-11.8	V	3.0	35.4	1.0	-46.2	-25.0	-21.2	
8055.00	-8.0	V	3.0	35.8	1.0	-42.8	-25.0	-17.8	
10740.00	-5.5	V	3.0	35.7	1.0	-40.2	-25.0	-15.2	
5370.00	-11.1	H	3.0	35.4	1.0	-45.6	-25.0	-20.6	
8055.00	-7.5	H	3.0	35.8	1.0	-42.3	-25.0	-17.3	
10740.00	-6.2	H	3.0	35.7	1.0	-40.9	-25.0	-15.9	

LTE B41 10MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 10MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501									
5002.00	-12.5	V	3.0	35.5	1.0	-46.9	-25.0	-21.9	
7503.00	-8.0	V	3.0	35.7	1.0	-42.7	-25.0	-17.7	
10040.00	-7.0	V	3.0	36.0	1.0	-42.0	-25.0	-17.0	
5002.00	-11.4	H	3.0	35.5	1.0	-45.8	-25.0	-20.8	
7503.00	-8.5	H	3.0	35.7	1.0	-43.3	-25.0	-18.3	
10040.00	-6.8	H	3.0	36.0	1.0	-41.8	-25.0	-16.8	
Mid Ch, 2593									
5186.00	-12.0	V	3.0	35.4	1.0	-46.4	-25.0	-21.4	
7779.00	-8.3	V	3.0	35.8	1.0	-43.0	-25.0	-18.0	
10372.00	-6.8	V	3.0	35.8	1.0	-41.6	-25.0	-16.6	
5186.00	-10.9	H	3.0	35.4	1.0	-45.3	-25.0	-20.3	
7779.00	-7.5	H	3.0	35.8	1.0	-42.2	-25.0	-17.2	
10372.00	-5.8	H	3.0	35.8	1.0	-40.6	-25.0	-15.6	
High Ch, 2685									
5370.00	-12.7	V	3.0	35.4	1.0	-47.2	-25.0	-22.2	
8055.00	-8.9	V	3.0	35.8	1.0	-43.7	-25.0	-18.7	
10740.00	-6.3	V	3.0	35.7	1.0	-40.9	-25.0	-15.9	
5370.00	-11.2	H	3.0	35.4	1.0	-45.7	-25.0	-20.7	
8055.00	-8.6	H	3.0	35.8	1.0	-43.4	-25.0	-18.4	
10740.00	-5.5	H	3.0	35.7	1.0	-40.1	-25.0	-15.1	

LTE B41 10MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 03/13/207
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503									
5006.00	-11.1	V	3.0	35.5	1.0	-45.6	-25.0	-20.6	
7509.00	-9.5	V	3.0	35.7	1.0	-44.2	-25.0	-19.2	
10012.00	-6.9	V	3.0	36.0	1.0	-41.9	-25.0	-16.9	
5006.00	-10.7	H	3.0	35.5	1.0	-45.2	-25.0	-20.2	
7509.00	-8.5	H	3.0	35.7	1.0	-43.2	-25.0	-18.2	
10012.00	-5.8	H	3.0	36.0	1.0	-40.8	-25.0	-15.8	
Mid Ch, 2593									
5186.00	-11.7	V	3.0	35.4	1.0	-46.2	-25.0	-21.2	
7779.00	-8.6	V	3.0	35.8	1.0	-43.3	-25.0	-18.3	
10372.00	-6.2	V	3.0	35.8	1.0	-41.0	-25.0	-16.0	
5186.00	-10.1	H	3.0	35.4	1.0	-44.6	-25.0	-19.6	
7779.00	-7.9	H	3.0	35.8	1.0	-42.7	-25.0	-17.7	
10372.00	-6.7	H	3.0	35.8	1.0	-41.5	-25.0	-16.5	
High Ch, 2682.50									
5365.00	-11.6	V	3.0	35.4	1.0	-46.0	-25.0	-21.0	
8047.50	-9.1	V	3.0	35.8	1.0	-43.9	-25.0	-18.9	
10730.00	-7.4	V	3.0	35.7	1.0	-42.1	-25.0	-17.1	
5365.00	-10.1	H	3.0	35.4	1.0	-44.6	-25.0	-19.6	
8047.50	-8.6	H	3.0	35.8	1.0	-43.4	-25.0	-18.4	
10730.00	-6.9	H	3.0	35.7	1.0	-41.6	-25.0	-16.6	

LTE B41 15MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 15MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503									
5006.00	-11.3	V	3.0	35.5	1.0	-45.8	-25.0	-20.8	
7509.00	-9.2	V	3.0	35.7	1.0	-44.0	-25.0	-19.0	
10012.00	-6.4	V	3.0	36.0	1.0	-41.5	-25.0	-16.5	
5006.00	-10.4	H	3.0	35.5	1.0	-44.9	-25.0	-19.9	
7509.00	-8.3	H	3.0	35.7	1.0	-43.0	-25.0	-18.0	
10012.00	-5.8	H	3.0	36.0	1.0	-40.8	-25.0	-15.8	
Mid Ch, 2593									
5186.00	-11.8	V	3.0	35.4	1.0	-46.2	-25.0	-21.2	
7779.00	-9.9	V	3.0	35.8	1.0	-44.7	-25.0	-19.7	
10372.00	-7.2	V	3.0	35.8	1.0	-42.0	-25.0	-17.0	
5186.00	-9.3	H	3.0	35.4	1.0	-43.8	-25.0	-18.8	
7779.00	-9.3	H	3.0	35.8	1.0	-44.1	-25.0	-19.1	
10372.00	-5.4	H	3.0	35.8	1.0	-40.3	-25.0	-15.3	
High Ch, 2682.50									
5365.00	-10.6	V	3.0	35.4	1.0	-45.0	-25.0	-20.0	
8047.50	-10.0	V	3.0	35.8	1.0	-44.8	-25.0	-19.8	
10730.00	-6.6	V	3.0	35.7	1.0	-41.3	-25.0	-16.3	
5365.00	-9.1	H	3.0	35.4	1.0	-43.6	-25.0	-18.6	
8047.50	-7.9	H	3.0	35.8	1.0	-42.7	-25.0	-17.7	
10730.00	-6.3	H	3.0	35.7	1.0	-41.0	-25.0	-16.0	

LTE B41 15MHz 16QAM

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_QPSK Band 41 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-11.3	V	3.0	35.5	1.0	-45.7	-25.0	-20.7	
7518.00	-10.1	V	3.0	35.7	1.0	-44.8	-25.0	-19.8	
10024.00	-7.7	V	3.0	36.0	1.0	-42.7	-25.0	-17.7	
5012.00	-9.8	H	3.0	35.5	1.0	-44.2	-25.0	-19.2	
7518.00	-8.8	H	3.0	35.7	1.0	-43.6	-25.0	-18.6	
10024.00	-6.4	H	3.0	36.0	1.0	-41.4	-25.0	-16.4	
Mid Ch, 2593									
5186.00	-12.0	V	3.0	35.4	1.0	-46.4	-25.0	-21.4	
7779.00	-8.6	V	3.0	35.8	1.0	-43.4	-25.0	-18.4	
10372.00	-6.5	V	3.0	35.8	1.0	-41.3	-25.0	-16.3	
5186.00	-10.8	H	3.0	35.4	1.0	-45.2	-25.0	-20.2	
7779.00	-7.7	H	3.0	35.8	1.0	-42.5	-25.0	-17.5	
10372.00	-5.8	H	3.0	35.8	1.0	-40.7	-25.0	-15.7	
High Ch, 2680									
5360.00	-11.2	V	3.0	35.4	1.0	-45.7	-25.0	-20.7	
8040.00	-9.6	V	3.0	35.8	1.0	-44.4	-25.0	-19.4	
10720.00	-7.3	V	3.0	35.7	1.0	-42.0	-25.0	-17.0	
5360.00	-10.0	H	3.0	35.4	1.0	-44.4	-25.0	-19.4	
8040.00	-8.3	H	3.0	35.8	1.0	-43.1	-25.0	-18.1	
10720.00	-6.0	H	3.0	35.7	1.0	-40.7	-25.0	-15.7	

LTE B41 20MHz QPSK

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

Company: SOMC
Project #: 11626381
Date: 3/13/2017
Test Engineer: 43574 JS
Configuration: EUT only
Location: Chamber C
Mode: LTE_16QAM Band 41 Harmonics, 20MHz Bandwidth

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2506									
5012.00	-12.1	V	3.0	35.5	1.0	-46.6	-25.0	-21.6	
7518.00	-10.2	V	3.0	35.7	1.0	-45.0	-25.0	-20.0	
10024.00	-7.4	V	3.0	36.0	1.0	-42.4	-25.0	-17.4	
5012.00	-10.7	H	3.0	35.5	1.0	-45.2	-25.0	-20.2	
7518.00	-8.0	H	3.0	35.7	1.0	-42.7	-25.0	-17.7	
10024.00	-5.8	H	3.0	36.0	1.0	-40.8	-25.0	-15.8	
Mid Ch, 2593									
5186.00	-12.1	V	3.0	35.4	1.0	-46.5	-25.0	-21.5	
7779.00	-9.1	V	3.0	35.8	1.0	-43.9	-25.0	-18.9	
10372.00	-6.4	V	3.0	35.8	1.0	-41.3	-25.0	-16.3	
5186.00	-11.1	H	3.0	35.4	1.0	-45.6	-25.0	-20.6	
7779.00	-7.5	H	3.0	35.8	1.0	-42.3	-25.0	-17.3	
10372.00	-6.1	H	3.0	35.8	1.0	-41.0	-25.0	-16.0	
High Ch, 2680									
5360.00	-10.9	V	3.0	35.4	1.0	-45.4	-25.0	-20.4	
8040.00	-9.9	V	3.0	35.8	1.0	-44.7	-25.0	-19.7	
10720.00	-7.1	V	3.0	35.7	1.0	-41.8	-25.0	-16.8	
5360.00	-9.6	H	3.0	35.4	1.0	-44.0	-25.0	-19.0	
8040.00	-7.1	H	3.0	35.8	1.0	-41.9	-25.0	-16.9	
10720.00	-6.7	H	3.0	35.7	1.0	-41.3	-25.0	-16.3	

LTE B41 20MHz 16QAM

UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701H
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888

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