9.1.1. GSM

GPRS 850

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: GPRS 850 MHz Fundamentals

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.20	24.86	V	2.9	0.1	22.11	38.5	-16.4	
824.20	32.90	H	2.9	0.2	30.24	38.5	-8.3	
Mid Ch								
836.60	26.29	V	2.9	0.1	23.45	38.5	-15.1	
836.60	33.25	H	2.9	0.2	30.50	38.5	-8.0	
High Ch								
848.80	26.14	V	2.9	0.0	23.24	38.5	-15.3	
848.80	32.70	H	2.9	0.1	29.90	38.5	-8.6	

EGPRS 850

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: EGPRS 850 MHz Fundamentals

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.20	22.75	V	2.9	0.1	20.00	38.5	-18.5	
824.20	30.83	H	2.9	0.2	28.17	38.5	-10.3	
Mid Ch								
836.60	24.14	V	2.9	0.1	21.30	38.5	-17.2	
836.60	31.17	H	2.9	0.2	28.42	38.5	-10.1	
High Ch								
848.80	24.14	V	2.9	0.0	21.24	38.5	-17.3	
848.80	30.58	H	2.9	0.1	27.78	38.5	-10.7	

GPRS 1900

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 10/31/2018
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: GPRS 1900 MHz Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	25.39	V	5.1	9.3	29.58	33.0	-3.4	
1850.20	21.01	H	5.1	9.3	25.21	33.0	-7.8	
Mid Ch								
1880.00	26.52	V	5.1	9.1	30.45	33.0	-2.5	
1880.00	20.28	H	5.1	9.1	24.21	33.0	-8.8	
High Ch								
1909.80	27.13	V	5.2	8.8	30.81	33.0	-2.2	
1909.80	19.60	H	5.2	8.8	23.28	33.0	-9.7	

EGPRS 1900

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 10/31/2018
Test Engineer: 43575 OS
Configuration: EUT Only
Location: Chamber B
Mode: EGPRS 1900 MHz Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.20	23.41	V	5.1	9.3	27.60	33.0	-5.4	
1850.20	18.60	H	5.1	9.3	22.80	33.0	-10.2	
Mid Ch								
1880.00	22.81	V	5.1	9.1	26.74	33.0	-6.3	
1880.00	18.14	H	5.1	9.1	22.07	33.0	-10.9	
High Ch								
1909.80	24.63	V	5.2	8.8	28.30	33.0	-4.7	
1909.80	15.76	H	5.2	8.8	19.43	33.0	-13.6	

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9.1.2. WCDMA

B2 REL99

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: Rel99 Band 2 Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.40	20.14	V	5.1	9.3	24.31	33.0	-8.7	
1852.40	12.27	H	5.1	9.3	16.45	33.0	-16.5	
Mid Ch								
1880.00	21.20	V	5.1	9.1	25.13	33.0	-7.9	
1880.00	15.79	H	5.1	9.1	19.72	33.0	-13.3	
High Ch								
1907.60	19.40	V	5.2	8.9	23.10	33.0	-9.9	
1907.60	13.48	H	5.2	8.9	17.18	33.0	-15.8	

B2 HSDPA

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: HSDPA Band 2 Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.40	19.54	V	5.1	9.3	23.72	33.0	-9.3	
1852.40	12.00	H	5.1	9.3	16.18	33.0	-16.8	
Mid Ch								
1880.00	21.48	V	5.1	9.1	25.41	33.0	-7.6	
1880.00	15.75	H	5.1	9.1	19.68	33.0	-13.3	
High Ch								
1907.60	19.57	V	5.2	8.9	23.27	33.0	-9.7	
1907.60	13.28	H	5.2	8.9	16.98	33.0	-16.0	

B5 REL99

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: Rel99 Band 5 Fundamentals

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.40	16.15	V	2.9	0.1	13.38	38.5	-25.1	
826.40	21.87	H	2.9	0.2	19.19	38.5	-19.3	
Mid Ch								
836.60	15.57	V	2.9	0.1	12.73	38.5	-25.8	
836.60	22.16	H	2.9	0.2	19.42	38.5	-19.1	
High Ch								
846.60	14.83	V	2.9	0.0	11.94	38.5	-26.6	
846.60	22.15	H	2.9	0.1	19.36	38.5	-19.1	

B5 HSDPA

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: HSDPA Band 5 Fundamentals

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
826.40	15.81	V	2.9	0.1	13.04	38.5	-25.5	
826.40	21.67	H	2.9	0.2	19.00	38.5	-19.5	
Mid Ch								
836.60	16.29	V	2.9	0.1	13.44	38.5	-25.1	
836.60	22.20	H	2.9	0.2	19.46	38.5	-19.0	
High Ch	0.00							
846.60	15.10	V	2.9	0.0	12.21	38.5	-26.3	
846.60	22.08	H	2.9	0.1	19.29	38.5	-19.2	

B4 REL99

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: Rel99 Band 4 Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.40	19.31	V	4.9	8.4	22.81	30.0	-7.2	
1712.40	10.92	H	4.9	8.4	14.43	30.0	-15.6	
Mid Ch								
1732.60	18.46	V	4.9	8.7	22.25	30.0	-7.7	
1732.60	14.35	H	4.9	8.7	18.13	30.0	-11.9	
High Ch								
1752.60	20.46	V	4.9	9.0	24.54	30.0	-5.5	
1752.60	11.55	H	4.9	9.0	15.63	30.0	-14.4	

B4 HSDPA

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: HSDPA Band 4 Fundamentals

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1712.40	19.44	V	4.9	8.4	22.95	30.0	-7.1	
1712.40	10.77	H	4.9	8.4	14.27	30.0	-15.7	
Mid Ch								
1732.60	18.76	V	4.9	8.7	22.54	30.0	-7.5	
1732.60	14.51	H	4.9	8.7	18.29	30.0	-11.7	
High Ch								
1752.60	20.59	V	4.9	9.0	24.67	30.0	-5.3	
1752.60	11.51	H	4.9	9.0	15.59	30.0	-14.4	

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9.1.3. LTE Band 2

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	20.16	V	5.1	9.2	24.27	33.0	-8.7	
1860.00	11.54	H	5.1	9.2	15.66	33.0	-17.3	
Mid Ch								
1880.00	19.30	V	5.1	9.1	23.23	33.0	-9.8	
1880.00	8.25	H	5.1	9.1	12.18	33.0	-20.8	
High Ch								
1900.00	20.43	V	5.2	8.9	24.17	33.0	-8.8	
1900.00	14.06	H	5.2	8.9	17.80	33.0	-15.2	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.72	V	5.1	9.2	21.83	33.0	-11.2	
1860.00	9.68	H	5.1	9.2	13.80	33.0	-19.2	
Mid Ch								
1880.00	17.59	V	5.1	9.1	21.52	33.0	-11.5	
1880.00	6.57	H	5.1	9.1	10.50	33.0	-22.5	
High Ch								
1900.00	18.62	V	5.2	8.9	22.36	33.0	-10.6	
1900.00	12.18	H	5.2	8.9	15.92	33.0	-17.1	

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	20.01	V	4.4	9.2	24.84	33.0	-8.2	
1857.50	11.67	H	4.4	9.2	16.50	33.0	-16.5	
Mid Ch								
1880.00	21.11	V	4.4	9.1	25.74	33.0	-7.3	
1880.00	11.03	H	4.4	9.1	15.66	33.0	-17.3	
High Ch								
1902.50	21.62	V	4.5	8.9	26.04	33.0	-7.0	
1902.50	10.74	H	4.5	8.9	15.16	33.0	-17.8	

3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.32	V	4.4	9.3	22.20	33.0	-10.8	
1851.50	10.76	H	4.4	9.3	15.64	33.0	-17.4	
Mid Ch								
1880.00	19.47	V	4.4	9.1	24.10	33.0	-8.9	
1880.00	9.68	H	4.4	9.1	14.31	33.0	-18.7	
High Ch								
1908.50	19.45	V	4.5	8.9	23.84	33.0	-9.2	
1908.50	9.78	H	4.5	8.9	14.17	33.0	-18.8	

9.1.4. LTE Band 4

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	18.36	V	4.9	8.5	21.99	30.0	-8.0	
1720.00	13.41	H	4.9	8.5	17.04	30.0	-13.0	
Mid Ch								
1732.50	17.11	V	4.9	8.7	20.89	30.0	-9.1	
1732.50	11.40	H	4.9	8.7	15.19	30.0	-14.8	
High Ch								
1745.00	18.88	V	4.9	8.9	22.84	30.0	-7.2	
1745.00	12.35	H	4.9	8.9	16.30	30.0	-13.7	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.60	V	4.9	8.5	20.23	30.0	-9.8	
1720.00	11.55	H	4.9	8.5	15.18	30.0	-14.8	
Mid Ch								
1732.50	15.53	V	4.9	8.7	19.31	30.0	-10.7	
1732.50	9.80	H	4.9	8.7	13.59	30.0	-16.4	
High Ch								
1745.00	16.82	V	4.9	8.9	20.78	30.0	-9.2	
1745.00	10.41	H	4.9	8.9	14.36	30.0	-15.6	

5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	18.38	V	4.9	8.4	21.89	30.0	-8.1	
1712.50	8.59	H	4.9	8.4	12.10	30.0	-17.9	
Mid Ch								
1732.50	17.82	V	4.9	8.7	21.60	30.0	-8.4	
1732.50	10.11	H	4.9	8.7	13.90	30.0	-16.1	
High Ch								
1752.50	20.11	V	4.9	9.0	24.19	30.0	-5.8	
1752.50	11.22	H	4.9	9.0	15.29	30.0	-14.7	

15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	15.54	V	4.2	8.5	19.85	30.0	-10.1	
1717.50	9.59	H	4.2	8.5	13.90	30.0	-16.1	
Mid Ch								
1732.50	16.45	V	4.2	8.7	20.94	30.0	-9.1	
1732.50	10.28	H	4.2	8.7	14.77	30.0	-15.2	
High Ch								
1747.50	17.30	V	4.3	8.9	21.96	30.0	-8.0	
1747.50	11.30	H	4.3	8.9	15.96	30.0	-14.0	

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9.1.5. LTE Band 5

10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	16.99	V	2.9	0.1	14.20	38.5	-24.3	
829.00	21.01	H	2.9	0.2	18.32	38.5	-20.2	
Mid Ch								
836.50	16.82	V	2.9	0.1	13.97	38.5	-24.5	
836.50	21.32	H	2.9	0.2	18.58	38.5	-19.9	
High Ch								
844.00	15.96	V	2.9	0.0	13.09	38.5	-25.4	
844.00	21.95	H	2.9	0.1	19.19	38.5	-19.3	

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	15.72	V	2.9	0.1	12.93	38.5	-25.6	
829.00	21.01	H	2.9	0.2	18.32	38.5	-20.2	
Mid Ch								
836.50	15.89	V	2.9	0.1	13.04	38.5	-25.5	
836.50	21.32	H	2.9	0.2	18.58	38.5	-19.9	
High Ch								
844.00	14.96	V	2.9	0.0	12.09	38.5	-26.4	
844.00	21.28	H	2.9	0.1	18.52	38.5	-20.0	

3MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 5 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	16.85	V	2.9	0.1	14.08	38.5	-24.4	
825.50	20.96	H	2.9	0.2	18.30	38.5	-20.2	
Mid Ch								
836.50	16.82	V	2.9	0.1	13.97	38.5	-24.5	
836.50	21.14	H	2.9	0.2	18.40	38.5	-20.1	
High Ch								
847.50	15.88	V	2.9	0.0	12.98	38.5	-25.5	
847.50	21.88	H	2.9	0.1	19.09	38.5	-19.4	

3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 5 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	15.31	V	2.9	0.1	12.54	38.5	-26.0	
825.50	20.95	H	2.9	0.2	18.29	38.5	-20.2	
Mid Ch								
836.50	15.63	V	2.9	0.1	12.78	38.5	-25.7	
836.50	20.91	H	2.9	0.2	18.17	38.5	-20.3	
High Ch								
847.50	14.89	V	2.9	0.0	11.99	38.5	-26.5	
847.50	21.24	H	2.9	0.1	18.45	38.5	-20.1	

9.1.6. LTE Band 7

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	19.68	V	5.2	9.6	24.08	33.0	-8.9	
2510.00	17.58	H	5.2	9.6	21.98	33.0	-11.0	
Mid Ch								
2535.00	15.44	V	5.2	9.5	19.78	33.0	-13.2	
2535.00	19.07	H	5.2	9.5	23.42	33.0	-9.6	
High Ch								
2560.00	19.23	V	5.3	9.5	23.40	33.0	-9.6	
2560.00	18.06	H	5.3	9.5	22.23	33.0	-10.8	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	17.41	V	5.2	9.6	21.81	33.0	-11.2	
2510.00	15.30	H	5.2	9.6	19.70	33.0	-13.3	
Mid Ch								
2535.00	13.25	V	5.2	9.5	17.59	33.0	-15.4	
2535.00	17.00	H	5.2	9.5	21.35	33.0	-11.7	
High Ch								
2560.00	16.95	V	5.3	9.5	21.12	33.0	-11.9	
2560.00	16.22	H	5.3	9.5	20.39	33.0	-12.6	

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	19.10	V	5.2	9.6	23.47	33.0	-9.5	
2507.50	17.46	H	5.2	9.6	21.84	33.0	-11.2	
Mid Ch								
2535.00	19.91	V	5.2	9.5	24.25	33.0	-8.7	
2535.00	19.51	H	5.2	9.5	23.86	33.0	-9.1	
High Ch								
2562.50	19.88	V	5.4	9.5	24.03	33.0	-9.0	
2562.50	19.33	H	5.4	9.5	23.48	33.0	-9.5	

15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 7 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.79	V	5.2	9.6	21.16	33.0	-11.8	
2507.50	15.04	H	5.2	9.6	19.42	33.0	-13.6	
Mid Ch								
2535.00	17.56	V	5.2	9.5	21.90	33.0	-11.1	
2535.00	17.20	H	5.2	9.5	21.55	33.0	-11.5	
High Ch								
2562.50	17.36	V	5.4	9.5	21.51	33.0	-11.5	
2562.50	16.88	H	5.4	9.5	21.03	33.0	-12.0	

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9.1.7. LTE Band 12

10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/1/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	14.54	V	2.6	1.2	13.08	34.8	-21.7	
704.00	23.14	H	2.6	1.6	22.07	34.8	-12.7	
Mid Ch								
707.50	14.19	V	2.7	1.1	12.67	34.8	-22.1	
707.50	22.44	H	2.7	1.5	21.29	34.8	-13.5	
High Ch								
711.00	15.51	V	2.6	1.1	13.98	34.8	-20.8	
711.00	21.50	H	2.6	1.5	20.32	34.8	-14.5	

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/1/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	13.80	V	2.6	1.2	12.34	34.8	-22.5	
704.00	22.38	H	2.6	1.6	21.31	34.8	-13.5	
Mid Ch								
707.50	13.60	V	2.7	1.1	12.08	34.8	-22.7	
707.50	21.53	H	2.7	1.5	20.38	34.8	-14.4	
High Ch								
711.00	14.87	V	2.6	1.1	13.34	34.8	-21.5	
711.00	20.98	H	2.6	1.5	19.80	34.8	-15.0	

5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	14.44	V	2.6	1.2	13.00	34.8	-21.8	
701.50	21.31	H	2.6	1.6	20.27	34.8	-14.5	
Mid Ch								
707.50	14.88	V	2.7	1.1	13.36	34.8	-21.4	
707.50	22.55	H	2.7	1.5	21.40	34.8	-13.4	
High Ch								
713.50	15.24	V	2.6	1.1	13.69	34.8	-21.1	
713.50	23.92	H	2.6	1.4	22.71	34.8	-12.1	

5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	13.63	V	2.6	1.2	12.19	34.8	-22.6	
701.50	20.54	H	2.6	1.6	19.50	34.8	-15.3	
Mid Ch								
707.50	14.15	V	2.7	1.1	12.63	34.8	-22.2	
707.50	21.62	H	2.7	1.5	20.47	34.8	-14.3	
High Ch								
713.50	14.60	V	2.6	1.1	13.05	34.8	-21.8	
713.50	23.32	H	2.6	1.4	22.11	34.8	-12.7	

9.1.8. LTE Band 13

10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 13 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
782.00	0.00	V	2.8	0.3	0.00	34.8	0.0	
782.00	0.00	H	2.8	0.5	0.00	34.8	0.0	
Mid Ch								
782.00	14.18	V	2.8	0.3	11.75	34.8	-23.0	
782.00	23.03	H	2.8	0.5	20.73	34.8	-14.0	
High Ch								
782.00	0.00	V	2.8	0.3	0.00	34.8	0.0	
782.00	0.00	H	2.8	0.5	0.00	34.8	0.0	

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 13 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
782.00	0.00	V	2.8	0.3	0.00	34.8	0.0	
782.00	0.00	H	2.8	0.5	0.00	34.8	0.0	
Mid Ch								
782.00	12.81	V	2.8	0.3	10.38	34.8	-24.4	
782.00	21.65	H	2.8	0.5	19.35	34.8	-15.4	
High Ch								
782.00	0.00	V	2.8	0.3	0.00	34.8	0.0	
782.00	0.00	H	2.8	0.5	0.00	34.8	0.0	

5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 13 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	14.03	V	2.8	0.4	11.62	34.8	-23.1	
779.50	23.12	H	2.8	0.5	20.87	34.8	-13.9	
Mid Ch								
782.00	12.48	V	2.8	0.3	10.05	34.8	-24.7	
782.00	22.83	H	2.8	0.5	20.53	34.8	-14.2	
High Ch								
784.50	13.82	V	2.8	0.3	11.35	34.8	-23.4	
784.50	22.45	H	2.8	0.4	20.10	34.8	-14.7	

5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 13 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	12.37	V	2.8	0.4	9.96	34.8	-24.8	
779.50	21.44	H	2.8	0.5	19.19	34.8	-15.6	
Mid Ch								
782.00	10.81	V	2.8	0.3	8.38	34.8	-26.4	
782.00	21.13	H	2.8	0.5	18.83	34.8	-15.9	
High Ch								
784.50	12.06	V	2.8	0.3	9.59	34.8	-25.2	
784.50	20.69	H	2.8	0.4	18.34	34.8	-16.4	

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9.1.9. LTE Band 17

10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	15.48	V	2.7	1.1	13.94	34.8	-20.8	
709.00	23.35	H	2.7	1.5	22.17	34.8	-12.6	
Mid Ch								
710.00	14.91	V	2.7	1.1	13.37	34.8	-21.4	
710.00	23.08	H	2.7	1.5	21.90	34.8	-12.9	
High Ch								
711.00	15.90	V	2.6	1.1	14.37	34.8	-20.4	
711.00	23.72	H	2.6	1.5	22.54	34.8	-12.2	

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	14.79	V	2.7	1.1	13.25	34.8	-21.5	
709.00	22.57	H	2.7	1.5	21.39	34.8	-13.4	
Mid Ch								
710.00	14.23	V	2.7	1.1	12.69	34.8	-22.1	
710.00	22.42	H	2.7	1.5	21.24	34.8	-13.5	
High Ch								
711.00	15.31	V	2.6	1.1	13.78	34.8	-21.0	
711.00	23.08	H	2.6	1.5	21.90	34.8	-12.9	

5MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	15.54	V	2.6	1.1	14.05	34.8	-20.7	
706.50	21.17	H	2.6	1.5	20.05	34.8	-14.7	
Mid Ch								
710.00	14.60	V	2.7	1.1	13.06	34.8	-21.7	
710.00	23.27	H	2.7	1.5	22.09	34.8	-12.7	
High Ch								
713.50	16.35	V	2.6	1.1	14.80	34.8	-20.0	
713.50	21.26	H	2.6	1.4	20.05	34.8	-14.7	

5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

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	14.88	V	2.6	1.1	13.39	34.8	-21.4	
706.50	20.52	H	2.6	1.5	19.40	34.8	-15.4	
Mid Ch								
710.00	13.89	V	2.7	1.1	12.35	34.8	-22.4	
710.00	22.55	H	2.7	1.5	21.37	34.8	-13.4	
High Ch								
713.50	15.69	V	2.6	1.1	14.14	34.8	-20.6	
713.50	20.76	H	2.6	1.4	19.55	34.8	-15.2	

9.1.10. LTE Band 25

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.94	V	5.1	9.2	21.05	33.0	-12.0	
1860.00	11.80	H	5.1	9.2	15.92	33.0	-17.1	
Mid Ch								
1882.50	17.26	V	5.1	9.0	21.17	33.0	-11.8	
1882.50	11.71	H	5.1	9.0	15.62	33.0	-17.4	
High Ch								
1905.00	18.71	V	5.2	8.9	22.42	33.0	-10.6	
1905.00	8.84	H	5.2	8.9	12.56	33.0	-20.4	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	16.60	V	5.1	9.2	20.71	33.0	-12.3	
1860.00	11.14	H	5.1	9.2	15.26	33.0	-17.7	
Mid Ch								
1882.50	16.45	V	5.1	9.0	20.36	33.0	-12.6	
1882.50	10.79	H	5.1	9.0	14.70	33.0	-18.3	
High Ch								
1905.00	17.86	V	5.2	8.9	21.57	33.0	-11.4	
1905.00	7.95	H	5.2	8.9	11.67	33.0	-21.3	

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	18.94	V	5.1	9.2	23.07	33.0	-9.9	
1857.50	10.73	H	5.1	9.2	14.87	33.0	-18.1	
Mid Ch								
1882.50	18.25	V	5.1	9.0	22.16	33.0	-10.8	
1882.50	11.63	H	5.1	9.0	15.54	33.0	-17.5	
High Ch								
1907.50	18.56	V	5.2	8.9	22.26	33.0	-10.7	
1907.50	13.24	H	5.2	8.9	16.94	33.0	-16.1	

3MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 25 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.50	17.32	V	5.1	9.3	21.50	33.0	-11.5	
1851.50	12.00	H	5.1	9.3	16.19	33.0	-16.8	
Mid Ch								
1882.50	17.74	V	5.1	9.0	21.65	33.0	-11.4	
1882.50	6.43	H	5.1	9.0	10.34	33.0	-22.7	
High Ch								
1913.50	19.22	V	5.2	8.8	22.87	33.0	-10.1	
1913.50	10.92	H	5.2	8.8	14.58	33.0	-18.4	

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9.1.11. LTE Band 26 (FCC PART 90S)

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 1/17/2019
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
821.50	9.98	V	2.9	0.1	7.24	38.5	-31.3	
821.50	22.32	H	2.9	0.2	19.67	38.5	-18.8	

15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 1/17/2019
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
821.50	9.73	V	2.9	0.1	6.99	38.5	-31.5	
821.50	20.55	H	2.9	0.2	17.90	38.5	-20.6	

10MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/27/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	15.44	V	2.8	0.1	12.71	50.0	-37.3	Part 90
819.00	23.21	H	2.8	0.2	20.56	50.0	-29.4	Part 90

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/27/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
819.00	13.22	V	2.8	0.1	10.49	50.0	-39.5	Part 90
819.00	20.94	H	2.8	0.2	18.29	50.0	-31.7	Part 90

9.1.12. LTE Band 26 (FCC PART 22)

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
831.50	14.21	V	2.9	0.1	11.39	38.5	-27.1	
831.50	21.63	H	2.9	0.2	18.91	38.5	-19.6	
Mid Ch								
836.50	13.79	V	2.9	0.1	10.94	38.5	-27.6	
836.50	22.67	H	2.9	0.2	19.93	38.5	-18.6	
High Ch								
841.50	14.46	V	2.9	0.0	11.60	38.5	-26.9	
841.50	24.61	H	2.9	0.1	21.86	38.5	-16.6	

15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/17/2018
Test Engineer: 19480 BS
Configuration: EUT only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
831.50	11.81	V	2.9	0.1	8.99	38.5	-29.5	
831.50	19.23	H	2.9	0.2	16.51	38.5	-22.0	
Mid Ch								
836.50	11.39	V	2.9	0.1	8.54	38.5	-30.0	
836.50	20.27	H	2.9	0.2	17.53	38.5	-21.0	
High Ch								
841.50	12.06	V	2.9	0.0	9.20	38.5	-29.3	
841.50	22.21	H	2.9	0.1	19.46	38.5	-19.0	

3MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 26 Fundamentals, 3MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
815.50	15.46	V	2.8	0.1	12.75	50.0	-37.2	Part 90
815.50	20.73	H	2.8	0.2	18.08	50.0	-31.9	Part 90
Mid Ch								
831.50	16.90	V	2.9	0.1	14.08	38.5	-24.4	
831.50	21.52	H	2.9	0.2	18.80	38.5	-19.7	
High Ch								
847.50	16.45	V	2.9	0.0	13.56	38.5	-24.9	
847.50	21.96	H	2.9	0.1	19.17	38.5	-19.3	

5MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 26 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Hybrid T407, and Chamber B SMA Cables
Substitution: Dipole T416, Chamber B Passthrough Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
816.50	13.49	V	2.8	0.1	10.78	50.0	-39.2	Part 90
816.50	19.95	H	2.8	0.2	17.30	50.0	-32.7	Part 90
Mid Ch								
831.50	15.83	V	2.9	0.1	13.01	38.5	-25.5	
831.50	21.35	H	2.9	0.2	18.63	38.5	-19.9	
High Ch								
846.50	13.50	V	2.9	0.0	10.61	38.5	-27.9	
846.50	20.92	H	2.9	0.1	18.14	38.5	-20.4	

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9.1.13. LTE Band 41

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41(FCC) Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.72	V	5.2	9.6	21.10	33.0	-11.9	
2506.00	14.95	H	5.2	9.6	19.33	33.0	-13.7	
Mid Ch								
2593.00	17.16	V	5.3	9.5	21.34	33.0	-11.7	
2593.00	16.91	H	5.3	9.5	21.09	33.0	-11.9	
High Ch								
2680.00	16.75	V	5.4	9.8	21.14	33.0	-11.9	
2680.00	15.72	H	5.4	9.8	20.10	33.0	-12.9	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41(FCC) Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.14	V	5.2	9.6	20.52	33.0	-12.5	
2506.00	13.96	H	5.2	9.6	18.34	33.0	-14.7	
Mid Ch								
2593.00	16.30	V	5.3	9.5	20.48	33.0	-12.5	
2593.00	16.28	H	5.3	9.5	20.46	33.0	-12.5	
High Ch								
2680.00	15.72	V	5.4	9.8	20.11	33.0	-12.9	
2680.00	15.07	H	5.4	9.8	19.45	33.0	-13.6	

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 41(FCC) Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	14.27	V	5.2	9.6	18.65	33.0	-14.3	
2503.50	16.61	H	5.2	9.6	21.00	33.0	-12.0	
Mid Ch								
2593.00	14.47	V	5.3	9.5	18.65	33.0	-14.4	
2593.00	16.16	H	5.3	9.5	20.34	33.0	-12.7	
High Ch								
2682.50	13.46	V	5.4	9.8	17.84	33.0	-15.2	
2682.50	13.97	H	5.4	9.8	18.34	33.0	-14.7	

10MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/16/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 41(FCC) Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	13.27	V	5.2	9.6	17.67	33.0	-15.3	
2501.00	14.68	H	5.2	9.6	19.08	33.0	-13.9	
Mid Ch								
2593.00	14.60	V	5.3	9.5	18.78	33.0	-14.2	
2593.00	13.17	H	5.3	9.5	17.35	33.0	-15.7	
High Ch								
2685.00	11.53	V	5.4	9.8	15.90	33.0	-17.1	
2685.00	12.80	H	5.4	9.8	17.16	33.0	-15.8	

9.1.14. LTE Band 66

20MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 66 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	17.71	V	4.2	8.5	22.04	30.0	-8.0	
1720.00	9.94	H	4.2	8.5	14.27	30.0	-15.7	
Mid Ch								
1745.00	18.20	V	4.2	8.9	22.85	30.0	-7.2	
1745.00	9.00	H	4.2	8.9	13.66	30.0	-16.3	
High Ch								
1770.00	18.55	V	4.3	9.3	23.53	30.0	-6.5	
1770.00	10.17	H	4.3	9.3	15.14	30.0	-14.9	

20MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/15/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 66 Fundamentals, 20MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.85	V	4.9	8.5	20.48	30.0	-9.5	
1720.00	9.16	H	4.9	8.5	12.79	30.0	-17.2	
Mid Ch								
1745.00	17.29	V	4.9	8.9	21.24	30.0	-8.8	
1745.00	8.15	H	4.9	8.9	12.11	30.0	-17.9	
High Ch								
1770.00	18.35	V	5.0	9.3	22.63	30.0	-7.4	
1770.00	9.28	H	5.0	9.3	13.55	30.0	-16.5	

15MHz QPSK

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_QPSK Band 66 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	16.25	V	4.2	8.5	20.56	30.0	-9.4	
1717.50	9.80	H	4.2	8.5	14.11	30.0	-15.9	
Mid Ch								
1745.00	16.91	V	4.2	8.9	21.56	30.0	-8.4	
1745.00	11.43	H	4.2	8.9	16.08	30.0	-13.9	
High Ch								
1772.50	17.95	V	4.3	9.3	22.96	30.0	-7.0	
1772.50	11.71	H	4.3	9.3	16.72	30.0	-13.3	

15MHz 16QAM

UL Verification Services, Inc.
High Frequency Substitution Measurement

Company: Lions
Project #: 12563708
Date: 11/20/2018
Test Engineer: 19480 BS
Configuration: EUT Only
Location: Chamber B
Mode: LTE_16QAM Band 66 Fundamentals, 15MHz Bandwidth

Test Equipment:
Receiving: Horn T863, and Chamber B SMA Cables
Substitution: Horn T60, Chamber B Passthrough Cables

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	15.43	V	4.2	8.5	19.74	30.0	-10.3	
1717.50	8.98	H	4.2	8.5	13.29	30.0	-16.7	
Mid Ch								
1745.00	16.12	V	4.2	8.9	20.77	30.0	-9.2	
1745.00	10.61	H	4.2	8.9	15.26	30.0	-14.7	
High Ch								
1772.50	17.19	V	4.3	9.3	22.20	30.0	-7.8	
1772.50	10.93	H	4.3	9.3	15.94	30.0	-14.1	

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9.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53, and §90.691

LIMITS

FCC: §22.917(a), §24.238(a), §27.53 (g), (h), §90.691
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.

FCC: §27.53 (Band 13)
(c) 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.
(f) Emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals. (-70 dBW/MHz = -40dBm/MHz).

FCC: §27.53 (m) (Band 7, 41)
At least 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.

TEST PROCEDURE

KDB 971168 D01 v02r02/D02 v01
TIA-603-E, Section 2.2.12.

MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 5
- WCDMA Band 2
- WCDMA Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 41
- LTE Band 66

RESULTS

No spurious emissions were detected above system noise floor from 18-26GHz.

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9.2.1. GSM

Company:	Samsung
Project #:	12563708
Date:	10/23/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	GPRS 850
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	824.2MHz											
4	1.643	-70.6	Pk	28.4	-31.5	11.5	-62.2	-13	-49.2	0-360	149	V
1	1.648	-63.24	Pk	28.5	-31.5	12.1	-54.14	-13	-41.14	0-360	149	H
5	2.476	-71.27	Pk	32.3	-30.4	11.6	-57.77	-13	-44.77	0-360	149	V
2	2.477	-70.34	Pk	32.3	-30.4	11.6	-56.84	-13	-43.84	0-360	149	H
3	3.289	-71.58	Pk	32.8	-29.2	11.1	-56.88	-13	-43.88	0-360	149	H
6	3.296	-72.04	Pk	32.8	-29.2	11.2	-57.24	-13	-44.24	0-360	149	V
	836.6MHz											
4	1.666	-68.84	Pk	28.6	-31.6	11.6	-60.24	-13	-47.24	0-360	149	V
1	1.669	-71	Pk	28.7	-31.5	12.7	-61.1	-13	-48.1	0-360	149	H
5	2.508	-70.55	Pk	32.4	-30.4	11.4	-57.15	-13	-44.15	0-360	149	V
2	2.515	-70.77	Pk	32.4	-30.4	11.5	-57.27	-13	-44.27	0-360	149	H
6	3.342	-72.08	Pk	32.7	-29	11	-57.38	-13	-44.38	0-360	149	V
3	3.351	-71.76	Pk	32.7	-29.1	10.7	-57.46	-13	-44.46	0-360	149	H
	848.8MHz											
1	1.698	-65.45	Pk	28.9	-31.2	12.5	-55.25	-13	-42.25	0-360	149	H
4	1.698	-57.64	Pk	28.9	-31.2	12.9	-47.04	-13	-34.04	0-360	149	V
5	2.533	-71.38	Pk	32.4	-30.3	12	-57.28	-13	-44.28	0-360	149	V
2	2.542	-70.05	Pk	32.3	-30.3	11.8	-56.25	-13	-43.25	0-360	149	H
6	3.373	-69.95	Pk	32.6	-29.1	11.9	-54.55	-13	-41.55	0-360	149	V
3	3.389	-70.9	Pk	32.6	-29.1	11.1	-56.3	-13	-43.3	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/23/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	EGPRS 850
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	824.2MHz											
4	1.645	-71	Pk	28.5	-31.5	11.5	-62.5	-13	-49.5	0-360	149	V
1	1.648	-70.01	Pk	28.5	-31.5	12.1	-60.91	-13	-47.91	0-360	149	H
2	2.466	-71.53	Pk	32.2	-30.5	11.9	-57.93	-13	-44.93	0-360	149	H
5	2.467	-72.67	Pk	32.2	-30.5	11.1	-59.87	-13	-46.87	0-360	149	V
6	3.287	-72.07	Pk	32.8	-29.2	11.1	-57.37	-13	-44.37	0-360	149	V
3	3.298	-71.18	Pk	32.8	-29.2	11.4	-56.18	-13	-43.18	0-360	149	H
	836.6MHz											
4	1.669	-71.58	Pk	28.7	-31.5	11.6	-62.78	-13	-49.78	0-360	149	V
1	1.674	-69.78	Pk	28.7	-31.5	12.5	-60.08	-13	-47.08	0-360	149	H
5	2.494	-70.91	Pk	32.4	-30.4	11.8	-57.11	-13	-44.11	0-360	149	V
2	2.505	-71.08	Pk	32.4	-30.4	11.3	-57.78	-13	-44.78	0-360	149	H
6	3.337	-71.68	Pk	32.7	-29	11	-56.98	-13	-43.98	0-360	149	V
3	3.343	-71.68	Pk	32.7	-29	10.4	-57.58	-13	-44.58	0-360	149	H
	848.8MHz											
1	1.694	-72.23	Pk	28.9	-31.2	12.6	-61.93	-13	-48.93	0-360	149	H
4	1.695	-71.26	Pk	28.9	-31.2	12.6	-60.96	-13	-47.96	0-360	149	V
5	2.537	-71.94	Pk	32.4	-30.3	12	-57.84	-13	-44.84	0-360	149	V
2	2.542	-70.86	Pk	32.3	-30.3	11.8	-57.06	-13	-44.06	0-360	149	H
6	3.376	-72.37	Pk	32.6	-29.1	12	-56.87	-13	-43.87	0-360	149	V
3	3.387	-71.28	Pk	32.6	-29	11.1	-56.58	-13	-43.58	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	GPRS 1900
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1852.2MHz											
4	3.693	-72.72	Pk	33	-28.8	11.6	-56.92	-13	-43.92	0-360	149	V
1	3.702	-70.93	Pk	33.1	-28.9	11.2	-55.53	-13	-42.53	0-360	149	H
5	5.524	-72.67	Pk	34.9	-26.7	11.3	-53.17	-13	-40.17	0-360	149	V
2	5.544	-73.79	Pk	35	-26.8	11	-54.59	-13	-41.59	0-360	149	H
6	7.384	-75.4	Pk	35.6	-23	11.2	-51.6	-13	-38.6	0-360	149	V
3	7.398	-75.89	Pk	35.6	-23	10.6	-52.69	-13	-39.69	0-360	149	H
	1880MHz											
4	3.743	-70.62	Pk	33.1	-28.8	11.4	-54.92	-13	-41.92	0-360	149	V
1	3.756	-71.14	Pk	33.2	-28.7	11.5	-55.14	-13	-42.14	0-360	149	H
2	5.628	-71.68	Pk	35.1	-26.7	10.5	-52.78	-13	-39.78	0-360	149	H
5	5.63	-73.05	Pk	35.1	-26.8	10.7	-54.05	-13	-41.05	0-360	149	V
6	7.487	-74.37	Pk	35.7	-23	10.9	-50.77	-13	-37.77	0-360	149	V
3	7.515	-74.9	Pk	35.7	-23	10.5	-51.7	-13	-38.7	0-360	149	H
	1909.8MHz											
4	3.797	-71.09	Pk	33.2	-28.5	11.3	-55.09	-13	-42.09	0-360	149	V
1	3.812	-71.41	Pk	33.2	-28.5	11.2	-55.51	-13	-42.51	0-360	149	H
5	5.706	-72.53	Pk	35	-26.3	10.7	-53.13	-13	-40.13	0-360	149	V
2	5.716	-73.71	Pk	35	-26.2	10.5	-54.41	-13	-41.41	0-360	149	H
6	7.616	-75.12	Pk	35.7	-22.9	11.3	-51.02	-13	-38.02	0-360	149	V
3	7.629	-75.18	Pk	35.7	-22.9	10.7	-51.68	-13	-38.68	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	EGPRS 1900
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1852.2MHz											
4	3.676	-71.58	Pk	33	-28.7	11.2	-56.08	-13	-43.08	0-360	149	V
1	3.692	-72.73	Pk	33	-28.8	11.3	-57.23	-13	-44.23	0-360	149	H
5	5.535	-73.81	Pk	35	-26.8	11.5	-54.11	-13	-41.11	0-360	149	V
2	5.541	-73.77	Pk	35	-26.8	11.2	-54.37	-13	-41.37	0-360	149	H
6	7.348	-73.64	Pk	35.7	-23.2	11	-50.14	-13	-37.14	0-360	149	V
3	7.384	-73.9	Pk	35.6	-23	10.9	-50.4	-13	-37.4	0-360	149	H
	1880MHz											
1	3.76	-70.99	Pk	33.2	-28.7	11.6	-54.89	-13	-41.89	0-360	149	H
4	3.763	-72.15	Pk	33.2	-28.7	11.2	-56.45	-13	-43.45	0-360	149	V
5	5.617	-73.83	Pk	35.1	-26.7	10.7	-54.73	-13	-41.73	0-360	149	V
2	5.626	-72.21	Pk	35.1	-26.7	10.4	-53.41	-13	-40.41	0-360	149	H
6	7.515	-74.38	Pk	35.7	-23	10.8	-50.88	-13	-37.88	0-360	149	V
3	7.516	-75.18	Pk	35.7	-23	10.5	-51.98	-13	-38.98	0-360	149	H
	1909.8MHz											
4	3.809	-71.09	Pk	33.2	-28.5	11.1	-55.29	-13	-42.29	0-360	149	V
1	3.817	-71.85	Pk	33.1	-28.5	11.6	-55.65	-13	-42.65	0-360	149	H
5	5.689	-72.83	Pk	35	-26.5	10.4	-53.93	-13	-40.93	0-360	149	V
2	5.713	-71.96	Pk	35	-26.2	10.6	-52.56	-13	-39.56	0-360	149	H
6	7.607	-74.98	Pk	35.7	-22.8	11.2	-50.88	-13	-37.88	0-360	149	V
3	7.63	-74.84	Pk	35.7	-22.9	10.7	-51.34	-13	-38.34	0-360	149	H

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9.2.2. WCDMA

Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	REL99 B5
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	826.4MHz											
1	1.654	-71.23	Pk	28.7	-33.3	10.8	-65.03	-13	-52.03	0-360	149	H
2	1.654	-70.33	Pk	28.7	-33.3	9.7	-65.23	-13	-52.23	0-360	149	V
3	2.48	-70.82	Pk	32.6	-32.3	8.7	-61.82	-13	-48.82	0-360	149	H
4	2.48	-70.8	Pk	32.6	-32.3	8.8	-61.7	-13	-48.7	0-360	149	V
6	3.306	-70.93	Pk	32.9	-31	9.9	-59.13	-13	-46.13	0-360	149	V
5	3.308	-70.58	Pk	32.9	-30.9	9.6	-58.98	-13	-45.98	0-360	149	H
	836.6MHz											
1	1.673	-69.57	Pk	29.1	-33.2	10.6	-63.07	-13	-50.07	0-360	149	H
2	1.675	-69.9	Pk	29.1	-33.1	9	-64.9	-13	-51.9	0-360	149	V
3	2.511	-70.86	Pk	32.7	-32.2	9.1	-61.26	-13	-48.26	0-360	149	H
4	2.511	-70.32	Pk	32.7	-32.2	9.4	-60.42	-13	-47.42	0-360	149	V
5	3.344	-70.83	Pk	32.9	-31	9	-59.93	-13	-46.93	0-360	149	H
6	3.345	-70.46	Pk	32.9	-31	9.3	-59.26	-13	-46.26	0-360	149	V
	846.6MHz											
2	1.692	-68.34	Pk	29.4	-33.2	9.7	-62.44	-13	-49.44	0-360	149	V
1	1.695	-69.8	Pk	29.5	-33.3	10.3	-63.3	-13	-50.3	0-360	149	H
3	2.539	-70.48	Pk	32.7	-32	8.9	-60.88	-13	-47.88	0-360	149	H
4	2.539	-70.87	Pk	32.7	-32	9.1	-61.07	-13	-48.07	0-360	149	V
5	3.383	-70.69	Pk	32.8	-31.2	8.5	-60.59	-13	-47.59	0-360	149	H
6	3.384	-70.7	Pk	32.8	-31.3	8.8	-60.4	-13	-47.4	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B5
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	826.4MHz											
1	1.653	-69.28	Pk	28.7	-33.4	10.8	-63.18	-13	-50.18	0-360	149	H
2	1.654	-69.97	Pk	28.7	-33.3	9.7	-64.87	-13	-51.87	0-360	149	V
3	2.48	-70.32	Pk	32.6	-32.3	8.7	-61.32	-13	-48.32	0-360	149	H
4	2.48	-70.09	Pk	32.6	-32.3	8.8	-60.99	-13	-47.99	0-360	149	V
5	3.306	-72.24	Pk	32.9	-31	9.7	-60.64	-13	-47.64	0-360	149	H
6	3.31	-69.44	Pk	32.9	-31	9.8	-57.74	-13	-44.74	0-360	149	V
	836.6MHz											
1	1.672	-69.56	Pk	29	-33.3	10.7	-63.16	-13	-50.16	0-360	149	H
2	1.674	-68.57	Pk	29.1	-33.2	9	-63.67	-13	-50.67	0-360	149	V
3	2.51	-69.99	Pk	32.7	-32.2	9.1	-60.39	-13	-47.39	0-360	149	H
4	2.511	-71.32	Pk	32.7	-32.2	9.4	-61.42	-13	-48.42	0-360	149	V
5	3.347	-69.97	Pk	32.9	-31	9.1	-58.97	-13	-45.97	0-360	149	H
6	3.348	-71.01	Pk	32.9	-31	9.4	-59.71	-13	-46.71	0-360	149	V
	846.6MHz											
1	1.694	-69.94	Pk	29.5	-33.3	10.4	-63.34	-13	-50.34	0-360	149	H
2	1.694	-70.28	Pk	29.5	-33.3	9.7	-64.38	-13	-51.38	0-360	149	V
4	2.54	-70.39	Pk	32.7	-32	9	-60.69	-13	-47.69	0-360	149	V
3	2.541	-71.92	Pk	32.7	-32	8.8	-62.42	-13	-49.42	0-360	149	H
6	3.286	-70.65	Pk	32.9	-31.3	9.2	-59.85	-13	-46.85	0-360	149	V
5	3.287	-72.56	Pk	32.9	-31.3	9.7	-61.26	-13	-48.26	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	REL99 B2
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1852.4MHz											
4	3.702	-70.18	Pk	33.2	-30.8	9.7	-58.08	-13	-45.08	0-360	149	V
3	3.703	-68.81	Pk	33.2	-30.8	10.2	-56.21	-13	-43.21	0-360	149	H
5	5.558	-72.08	Pk	35.4	-29.7	8.9	-57.48	-13	-44.48	0-360	149	H
6	5.558	-71.36	Pk	35.4	-29.7	8.8	-56.86	-13	-43.86	0-360	149	V
7	7.408	-70.36	Pk	36.2	-27.5	6.8	-54.86	-13	-41.86	0-360	149	H
8	7.41	-73.12	Pk	36.2	-27.5	7.1	-57.32	-13	-44.32	0-360	149	V
	1880MHz											
4	3.759	-70.33	Pk	33.3	-31.1	9.6	-58.53	-13	-45.53	0-360	149	V
3	3.763	-69.8	Pk	33.3	-31	9.3	-58.2	-13	-45.2	0-360	149	H
6	5.641	-71.81	Pk	35.5	-29.4	8.1	-57.61	-13	-44.61	0-360	149	V
5	5.642	-72.05	Pk	35.5	-29.4	8.1	-57.85	-13	-44.85	0-360	149	H
7	7.516	-68.43	Pk	36.2	-27.3	7.6	-51.93	-13	-38.93	0-360	149	H
8	7.516	-72.38	Pk	36.2	-27.3	7.5	-55.98	-13	-42.98	0-360	149	V
	1907.6MHz											
3	3.814	-68.73	Pk	33.4	-30.5	9.4	-56.43	-13	-43.43	0-360	149	H
4	3.817	-70.09	Pk	33.4	-30.6	9.8	-57.49	-13	-44.49	0-360	149	V
5	5.72	-70.83	Pk	35.5	-29.7	7.6	-57.43	-13	-44.43	0-360	149	H
6	5.72	-69.47	Pk	35.5	-29.7	7.7	-55.97	-13	-42.97	0-360	149	V
7	7.631	-73.85	Pk	36.4	-27	7.4	-57.05	-13	-44.05	0-360	149	H
8	7.631	-73.27	Pk	36.4	-27	7.4	-56.47	-13	-43.47	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B2
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1852.4MHz											
3	3.704	-70.62	Pk	33.2	-30.9	10.2	-58.12	-13	-45.12	0-360	149	H
4	3.706	-70.67	Pk	33.2	-30.9	10	-58.37	-13	-45.37	0-360	149	V
5	5.556	-72.07	Pk	35.4	-29.7	8.9	-57.47	-13	-44.47	0-360	149	H
6	5.557	-72.22	Pk	35.4	-29.7	8.8	-57.72	-13	-44.72	0-360	149	V
7	7.408	-71.95	Pk	36.2	-27.5	6.9	-56.35	-13	-43.35	0-360	149	H
8	7.41	-73.26	Pk	36.2	-27.5	7.1	-57.46	-13	-44.46	0-360	149	V
	1880MHz											
3	3.759	-69.77	Pk	33.3	-31.1	9.3	-58.27	-13	-45.27	0-360	149	H
4	3.76	-69.33	Pk	33.3	-31.1	9.7	-57.43	-13	-44.43	0-360	149	V
5	5.638	-71.49	Pk	35.5	-29.4	8.4	-56.99	-13	-43.99	0-360	149	H
6	5.642	-71.32	Pk	35.5	-29.4	8	-57.22	-13	-44.22	0-360	149	V
8	7.519	-73.58	Pk	36.2	-27.3	7.5	-57.18	-13	-44.18	0-360	149	V
7	7.521	-72.6	Pk	36.2	-27.3	7.5	-56.2	-13	-43.2	0-360	149	H
	1907.6MHz											
3	3.815	-69.98	Pk	33.4	-30.5	9.4	-57.68	-13	-44.68	0-360	149	H
4	3.815	-69.84	Pk	33.4	-30.5	9.7	-57.24	-13	-44.24	0-360	149	V
5	5.722	-71.03	Pk	35.5	-29.7	7.7	-57.53	-13	-44.53	0-360	149	H
6	5.722	-70.83	Pk	35.5	-29.7	7.7	-57.33	-13	-44.33	0-360	149	V
7	7.63	-72.02	Pk	36.4	-27	7.5	-55.12	-13	-42.12	0-360	149	H
8	7.631	-73.02	Pk	36.4	-27	7.4	-56.22	-13	-43.22	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	REL99 B4
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1712.4MHz											
4	3.423	-70.54	Pk	32.8	-31.4	9.3	-59.84	-13	-46.84	0-360	149	V
3	3.424	-70.11	Pk	32.8	-31.4	8.9	-59.81	-13	-46.81	0-360	149	H
5	5.137	-71.13	Pk	34.6	-30.1	8.3	-58.33	-13	-45.33	0-360	149	H
6	5.138	-71.43	Pk	34.6	-30.1	8.2	-58.73	-13	-45.73	0-360	149	V
8	6.85	-72	Pk	35.8	-28.1	6.7	-57.6	-13	-44.6	0-360	149	V
7	6.851	-71.8	Pk	35.8	-28	6.7	-57.3	-13	-44.3	0-360	149	H
	1732.6MHz											
3	3.465	-70.67	Pk	32.9	-31.3	9.7	-59.37	-13	-46.37	0-360	149	H
4	3.467	-71.06	Pk	32.9	-31.3	9.3	-60.16	-13	-47.16	0-360	149	V
5	5.197	-71.59	Pk	34.7	-29.8	9.2	-57.49	-13	-44.49	0-360	149	H
6	5.197	-69.35	Pk	34.7	-29.8	9.2	-55.25	-13	-42.25	0-360	149	V
7	6.929	-72.68	Pk	35.8	-27.9	6.8	-57.98	-13	-44.98	0-360	149	H
8	6.93	-72.1	Pk	35.8	-28	6.8	-57.5	-13	-44.5	0-360	149	V
	1752.6MHz											
3	3.505	-72.91	Pk	32.9	-31	9.7	-61.31	-13	-48.31	0-360	149	H
4	3.505	-71.22	Pk	32.9	-31	9.8	-59.52	-13	-46.52	0-360	149	V
5	5.257	-71.45	Pk	34.8	-29.8	8.7	-57.75	-13	-44.75	0-360	149	H
6	5.258	-72.17	Pk	34.8	-29.8	8.6	-58.57	-13	-45.57	0-360	149	V
7	7.01	-72.46	Pk	35.9	-27.8	7.1	-57.26	-13	-44.26	0-360	149	H
8	7.01	-73.42	Pk	35.9	-27.8	7.1	-58.22	-13	-45.22	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	16069
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B4
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1712.4MHz											
4	3.421	-69.74	Pk	32.8	-31.4	9.3	-59.04	-13	-46.04	0-360	149	V
3	3.424	-69.05	Pk	32.8	-31.4	9	-58.65	-13	-45.65	0-360	149	H
5	5.137	-70.46	Pk	34.6	-30.1	8.3	-57.66	-13	-44.66	0-360	149	H
6	5.138	-70.23	Pk	34.6	-30.1	8.2	-57.53	-13	-44.53	0-360	149	V
7	6.849	-71.68	Pk	35.8	-28.2	6.6	-57.48	-13	-44.48	0-360	149	H
8	6.85	-72.43	Pk	35.8	-28.1	6.7	-58.03	-13	-45.03	0-360	149	V
	1732.6MHz											
3	3.467	-69.08	Pk	32.9	-31.3	9.7	-57.78	-13	-44.78	0-360	149	H
4	3.468	-71.7	Pk	32.9	-31.2	9.3	-60.7	-13	-47.7	0-360	149	V
6	5.198	-70.27	Pk	34.7	-29.8	9.3	-56.07	-13	-43.07	0-360	149	V
5	5.201	-71.18	Pk	34.7	-29.8	9.4	-56.88	-13	-43.88	0-360	149	H
7	6.932	-72.09	Pk	35.8	-28	6.6	-57.69	-13	-44.69	0-360	149	H
8	6.933	-72.46	Pk	35.8	-28	6.7	-57.96	-13	-44.96	0-360	149	V
	1752.6MHz											
3	3.505	-69.94	Pk	32.9	-31	9.7	-58.34	-13	-45.34	0-360	149	H
4	3.505	-71.46	Pk	32.9	-31	9.8	-59.76	-13	-46.76	0-360	149	V
5	5.255	-71.01	Pk	34.8	-29.8	8.9	-57.11	-13	-44.11	0-360	149	H
6	5.255	-70.97	Pk	34.8	-29.8	8.7	-57.27	-13	-44.27	0-360	149	V
8	7.01	-73.43	Pk	35.9	-27.8	7.1	-58.23	-13	-45.23	0-360	149	V
7	7.011	-73.67	Pk	35.9	-27.8	7.1	-58.47	-13	-45.47	0-360	149	H

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9.2.3. LTE BAND 2

Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 QPSK 20MHz
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1860MHz											
4	3.782	-68.12	Pk	33.2	-28.5	11.4	-52.02	-13	-39.02	0-360	149	V
1	4.131	-69.96	Pk	33.4	-28	11.3	-53.26	-13	-40.26	0-360	149	H
2	4.437	-70.08	Pk	33.7	-27.9	11.7	-52.58	-13	-39.58	0-360	149	H
5	6.313	-71.55	Pk	35.7	-25	11.2	-49.65	-13	-36.65	0-360	149	V
6	10.854	-73.81	Pk	37.9	-18.8	11.2	-43.51	-13	-30.51	0-360	149	V
3	10.865	-73.14	Pk	37.9	-18.7	10.9	-43.04	-13	-30.04	0-360	149	H
	1880MHz											
4	3.743	-70.84	Pk	33.1	-28.8	11.4	-55.14	-13	-42.14	0-360	149	V
1	3.752	-72.02	Pk	33.1	-28.7	11.7	-55.92	-13	-42.92	0-360	149	H
5	5.631	-73.37	Pk	35.1	-26.8	10.6	-54.47	-13	-41.47	0-360	149	V
2	5.639	-72.99	Pk	35.1	-26.8	10.8	-53.89	-13	-40.89	0-360	149	H
6	7.486	-74.21	Pk	35.7	-23	10.8	-50.71	-13	-37.71	0-360	149	V
3	7.499	-75.29	Pk	35.7	-23.1	10.7	-51.99	-13	-38.99	0-360	149	H
	1900MHz											
1	3.3	-69.76	Pk	32.8	-29.1	11.5	-54.56	-13	-41.56	0-360	149	H
4	3.655	-70.21	Pk	32.9	-28.6	10.7	-55.21	-13	-42.21	0-360	149	V
5	5.05	-70.09	Pk	34.4	-27.3	11.2	-51.79	-13	-38.79	0-360	149	V
2	5.482	-71.46	Pk	34.8	-26.7	10.9	-52.46	-13	-39.46	0-360	149	H
6	7.203	-73.33	Pk	35.7	-23.4	10.9	-50.13	-13	-37.13	0-360	149	V
3	7.564	-71.7	Pk	35.7	-22.9	10.9	-48	-13	-35	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 16QAM 20MHz
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1860MHz											
4	3.042	-69.81	Pk	32.7	-29.7	11.9	-54.91	-13	-41.91	0-360	149	V
1	3.047	-70.42	Pk	32.7	-29.6	11.9	-55.42	-13	-42.42	0-360	149	H
5	5.961	-71.4	Pk	35.3	-25.9	11.1	-50.9	-13	-37.9	0-360	149	V
2	6.001	-70.76	Pk	35.3	-25.9	11.4	-49.96	-13	-36.96	0-360	149	H
3	6.381	-70.94	Pk	35.8	-25	11	-49.14	-13	-36.14	0-360	149	H
6	6.495	-72.46	Pk	35.7	-24.7	11.3	-50.16	-13	-37.16	0-360	149	V
	1880MHz											
4	2.397	-69.62	Pk	31.8	-30.4	13.1	-55.12	-13	-42.12	0-360	149	V
1	3.442	-70.33	Pk	32.7	-28.9	11.7	-54.83	-13	-41.83	0-360	149	H
5	4.112	-70.71	Pk	33.4	-28.1	11.7	-53.71	-13	-40.71	0-360	149	V
2	5.928	-71.73	Pk	35.2	-25.8	10.8	-51.53	-13	-38.53	0-360	149	H
6	8.415	-74.83	Pk	35.8	-22.5	11.2	-50.33	-13	-37.33	0-360	149	V
3	9.497	-72.17	Pk	36.8	-21.2	11	-45.57	-13	-32.57	0-360	149	H
	1900MHz											
1	3.475	-69.75	Pk	32.8	-29.1	11.5	-54.55	-13	-41.55	0-360	149	H
2	5.332	-71.49	Pk	34.6	-26.6	10.8	-52.69	-13	-39.69	0-360	149	H
3	6.745	-72.03	Pk	35.5	-24.3	10.7	-50.13	-13	-37.13	0-360	149	H
4	7.564	-73.18	Pk	35.7	-22.9	11.3	-49.08	-13	-36.08	0-360	149	V
5	8.518	-72.65	Pk	35.8	-22.1	11	-47.95	-13	-34.95	0-360	149	V
6	12.697	-73.82	Pk	39.2	-18.8	10.9	-42.52	-13	-29.52	0-360	149	V

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9.2.4. LTE BAND 4

Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 QPSK 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1720MHz											
1	3.447	-69	Pk	32.9	-31.6	9.2	-58.5	-13	-45.5	0-360	149	H
2	3.448	-69.87	Pk	32.9	-31.5	9	-59.47	-13	-46.47	0-360	149	V
4	5.161	-71.39	Pk	34.6	-29.7	9.4	-57.09	-13	-44.09	0-360	149	V
3	5.163	-71.07	Pk	34.6	-29.6	9.3	-56.77	-13	-43.77	0-360	149	H
5	6.88	-71.24	Pk	35.8	-28.4	6.7	-57.14	-13	-44.14	0-360	149	H
6	6.882	-72.55	Pk	35.8	-28.4	6.8	-58.35	-13	-45.35	0-360	149	V
	1732.5MHz											
1	3.47	-69.65	Pk	32.9	-31.2	9.6	-58.35	-13	-45.35	0-360	149	H
2	3.47	-68.88	Pk	32.9	-31.2	9.2	-57.98	-13	-44.98	0-360	149	V
3	5.203	-70.33	Pk	34.7	-29.8	9.3	-56.13	-13	-43.13	0-360	149	H
4	5.208	-70.71	Pk	34.7	-29.6	9.2	-56.41	-13	-43.41	0-360	149	V
5	6.946	-70.79	Pk	35.8	-27.9	6.8	-56.09	-13	-43.09	0-360	149	H
6	6.95	-70.87	Pk	35.9	-28	6.8	-56.17	-13	-43.17	0-360	149	V
	1745MHz											
2	3.501	-69.41	Pk	32.9	-31.1	9.7	-57.91	-13	-44.91	0-360	149	V
1	3.505	-70.44	Pk	32.9	-31	9.7	-58.84	-13	-45.84	0-360	149	H
4	5.237	-71.64	Pk	34.8	-29.5	8.9	-57.44	-13	-44.44	0-360	149	V
3	5.238	-71.69	Pk	34.8	-29.6	9.1	-57.39	-13	-44.39	0-360	149	H
5	6.988	-71.82	Pk	35.9	-28	6.8	-57.12	-13	-44.12	0-360	149	V
6	6.991	-72.32	Pk	35.9	-28	6.8	-57.62	-13	-44.62	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/26/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 16QAM 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1720MHz											
1	3.401	-70.3	Pk	32.8	-31.4	8.8	-60.1	-13	-47.1	0-360	149	H
2	3.401	-68.68	Pk	32.8	-31.3	8.8	-58.38	-13	-45.38	0-360	149	V
4	5.167	-71.37	Pk	34.6	-29.5	9.4	-56.87	-13	-43.87	0-360	149	V
3	5.168	-70.27	Pk	34.6	-29.5	9.5	-55.67	-13	-42.67	0-360	149	H
5	6.883	-72.13	Pk	35.8	-28.4	6.7	-58.03	-13	-45.03	0-360	149	H
6	6.884	-72.05	Pk	35.8	-28.3	6.8	-57.75	-13	-44.75	0-360	149	V
	1732.5MHz											
2	3.467	-70.4	Pk	32.9	-31.3	9.3	-59.5	-13	-46.5	0-360	149	V
1	3.47	-70.31	Pk	32.9	-31.2	9.6	-59.01	-13	-46.01	0-360	149	H
3	5.196	-70.41	Pk	34.7	-29.8	9.2	-56.31	-13	-43.31	0-360	149	H
4	5.197	-71.28	Pk	34.7	-29.8	9.2	-57.18	-13	-44.18	0-360	149	V
6	6.928	-71.48	Pk	35.8	-27.9	6.9	-56.68	-13	-43.68	0-360	149	V
5	6.934	-71.92	Pk	35.8	-28	6.6	-57.52	-13	-44.52	0-360	149	H
	1745MHz											
1	3.481	-70.06	Pk	32.9	-31.1	9.4	-58.86	-13	-45.86	0-360	149	H
2	3.486	-70.41	Pk	32.9	-30.9	9.5	-58.91	-13	-45.91	0-360	149	V
3	5.225	-69.68	Pk	34.7	-29.4	9	-55.38	-13	-42.38	0-360	149	H
4	5.235	-70.04	Pk	34.8	-29.6	8.8	-56.04	-13	-43.04	0-360	149	V
5	6.978	-71.42	Pk	35.9	-27.9	6.9	-56.52	-13	-43.52	0-360	149	H
6	6.98	-72.33	Pk	35.9	-27.9	6.9	-57.43	-13	-44.43	0-360	149	V

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9.2.5. LTE BAND 5

Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 QPSK 10MHz
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	829MHz											
4	1.67	-70.82	Pk	28.7	-31.6	11.6	-62.12	-13	-49.12	0-360	149	V
1	1.678	-69.84	Pk	28.8	-31.5	12	-60.54	-13	-47.54	0-360	149	H
2	2.513	-71.09	Pk	32.4	-30.5	11.5	-57.69	-13	-44.69	0-360	149	H
5	2.515	-71.29	Pk	32.4	-30.5	11.7	-57.69	-13	-44.69	0-360	149	V
3	3.342	-70.74	Pk	32.7	-29	10.5	-56.54	-13	-43.54	0-360	149	H
6	3.346	-71.15	Pk	32.7	-29	11	-56.45	-13	-43.45	0-360	149	V
	836.5MHz											
4	1.848	-70.03	Pk	30.9	-31.3	12.9	-57.53	-13	-44.53	0-360	149	V
1	2.066	-69.68	Pk	31.3	-31	12.7	-56.68	-13	-43.68	0-360	149	H
2	3.288	-69.45	Pk	32.8	-29.2	11.1	-54.75	-13	-41.75	0-360	149	H
3	4.43	-70.49	Pk	33.7	-28	11.6	-53.19	-13	-40.19	0-360	149	H
5	4.776	-70.72	Pk	34.1	-27.2	10.9	-52.92	-13	-39.92	0-360	149	V
6	6.28	-71.65	Pk	35.7	-25	11	-49.95	-13	-36.95	0-360	149	V
	844MHz											
1	1.668	-70.15	Pk	28.7	-31.6	12.6	-60.45	-13	-47.45	0-360	149	H
4	1.669	-70.98	Pk	28.7	-31.6	11.6	-62.28	-13	-49.28	0-360	149	V
5	2.51	-71.39	Pk	32.4	-30.5	11.6	-57.89	-13	-44.89	0-360	149	V
2	2.512	-70.2	Pk	32.4	-30.5	11.5	-56.8	-13	-43.8	0-360	149	H
6	3.343	-70.85	Pk	32.7	-29	11	-56.15	-13	-43.15	0-360	149	V
3	3.348	-71.64	Pk	32.7	-29.1	10.5	-57.54	-13	-44.54	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 16QAM 10MHz
Chamber #:	Chamber A

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	829MHz											
4	1.67	-69.46	Pk	28.7	-31.6	11.6	-60.76	-13	-47.76	0-360	149	V
1	1.671	-70.33	Pk	28.7	-31.6	12.7	-60.53	-13	-47.53	0-360	149	H
2	2.507	-70.43	Pk	32.4	-30.4	11.3	-57.13	-13	-44.13	0-360	149	H
5	2.508	-69.99	Pk	32.4	-30.4	11.4	-56.59	-13	-43.59	0-360	149	V
3	3.351	-71.22	Pk	32.7	-29.1	10.7	-56.92	-13	-43.92	0-360	149	H
6	3.351	-71.35	Pk	32.7	-29.1	11.4	-56.35	-13	-43.35	0-360	149	V
	836.5MHz											
1	1.672	-70.97	Pk	28.7	-31.6	12.7	-61.17	-13	-48.17	0-360	149	H
4	1.673	-70.67	Pk	28.7	-31.6	11.4	-62.17	-13	-49.17	0-360	149	V
5	2.501	-70.12	Pk	32.4	-30.5	11.6	-56.62	-13	-43.62	0-360	149	V
2	2.512	-70.32	Pk	32.4	-30.5	11.5	-56.92	-13	-43.92	0-360	149	H
6	3.33	-69.35	Pk	32.7	-29	11	-54.65	-13	-41.65	0-360	149	V
3	3.344	-71.32	Pk	32.7	-29	10.4	-57.22	-13	-44.22	0-360	149	H
	844MHz											
1	1.671	-70.2	Pk	28.7	-31.6	12.7	-60.4	-13	-47.4	0-360	149	H
4	1.672	-70.16	Pk	28.7	-31.6	11.5	-61.56	-13	-48.56	0-360	149	V
2	2.505	-71.17	Pk	32.4	-30.4	11.3	-57.87	-13	-44.87	0-360	149	H
5	2.51	-70.98	Pk	32.4	-30.5	11.6	-57.48	-13	-44.48	0-360	149	V
6	3.34	-71.18	Pk	32.7	-29	11	-56.48	-13	-43.48	0-360	149	V
3	3.343	-71.53	Pk	32.7	-29	10.4	-57.43	-13	-44.43	0-360	149	H

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9.2.6. LTE BAND 7

Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 7 QPSK 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2510MHz											
4	5.001	-71.76	Pk	34.6	-29.8	9.4	-57.56	-25	-32.56	0-360	149	V
1	5.025	-70.78	Pk	34.6	-30.2	8.4	-57.98	-25	-32.98	0-360	149	H
2	7.51	-73.22	Pk	36.2	-27.1	7.7	-56.42	-25	-31.42	0-360	149	H
5	7.513	-72.98	Pk	36.2	-27.2	7.6	-56.38	-25	-31.38	0-360	149	V
6	10.043	-74.57	Pk	37.5	-23.7	7.9	-52.87	-25	-27.87	0-360	149	V
3	10.047	-73.22	Pk	37.5	-23.7	7.9	-51.52	-25	-26.52	0-360	149	H
	2535MHz											
4	5.051	-71.34	Pk	34.6	-29.6	9.6	-56.74	-25	-31.74	0-360	149	V
1	5.067	-70.88	Pk	34.5	-29.8	8.7	-57.48	-25	-32.48	0-360	149	H
5	7.593	-71.75	Pk	36.4	-27.1	7	-55.45	-25	-30.45	0-360	149	V
2	7.594	-72.83	Pk	36.4	-27.1	7.2	-56.33	-25	-31.33	0-360	149	H
6	10.113	-73.54	Pk	37.7	-23.8	7.1	-52.54	-25	-27.54	0-360	149	V
3	10.118	-73.64	Pk	37.7	-23.8	6.8	-52.94	-25	-27.94	0-360	149	H
	2560MHz											
4	5.087	-71.07	Pk	34.5	-30.1	8.7	-57.97	-25	-32.97	0-360	149	V
1	5.113	-70.43	Pk	34.6	-29.8	9.3	-56.33	-25	-31.33	0-360	149	H
5	7.631	-73.49	Pk	36.4	-27	7.4	-56.69	-25	-31.69	0-360	149	V
2	7.67	-73.39	Pk	36.4	-26.8	8	-55.79	-25	-30.79	0-360	149	H
3	10.224	-74.9	Pk	37.8	-23.3	7.7	-52.7	-25	-27.7	0-360	149	H
6	10.24	-74.97	Pk	37.8	-23.3	7.5	-52.97	-25	-27.97	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 7 16QAM 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2510MHz											
4	5.007	-72.22	Pk	34.6	-30	9.3	-58.32	-25	-33.32	0-360	149	V
1	5.013	-70.61	Pk	34.6	-30.1	8.7	-57.41	-25	-32.41	0-360	149	H
5	7.511	-73.38	Pk	36.2	-27.2	7.7	-56.68	-25	-31.68	0-360	149	V
2	7.523	-72.61	Pk	36.2	-27.4	7.4	-56.41	-25	-31.41	0-360	149	H
6	10.014	-74.42	Pk	37.5	-23.8	8.1	-52.62	-25	-27.62	0-360	149	V
3	10.048	-74.94	Pk	37.6	-23.7	7.8	-53.24	-25	-28.24	0-360	149	H
	2535MHz											
4	5.022	-70.87	Pk	34.6	-30.2	8.8	-57.67	-25	-32.67	0-360	149	V
1	5.062	-70.99	Pk	34.5	-30	8.8	-57.69	-25	-32.69	0-360	149	H
5	7.589	-72.49	Pk	36.3	-27.2	6.9	-56.49	-25	-31.49	0-360	149	V
2	7.605	-71.98	Pk	36.4	-26.8	7.7	-54.68	-25	-29.68	0-360	149	H
6	10.116	-74.53	Pk	37.7	-23.8	7	-53.63	-25	-28.63	0-360	149	V
3	10.135	-74.64	Pk	37.7	-23.7	6.4	-54.24	-25	-29.24	0-360	149	H
	2560MHz											
4	5.111	-70.96	Pk	34.5	-29.8	9.2	-57.06	-25	-32.06	0-360	149	V
1	5.123	-70.4	Pk	34.6	-29.8	8.7	-56.9	-25	-31.9	0-360	149	H
5	7.628	-72.41	Pk	36.4	-26.9	7.4	-55.51	-25	-30.51	0-360	149	V
2	7.658	-73.4	Pk	36.4	-26.7	7.8	-55.9	-25	-30.9	0-360	149	H
6	10.204	-70.25	Pk	37.8	-23.3	6.9	-48.85	-25	-23.85	0-360	149	V
3	10.223	-74.56	Pk	37.8	-23.3	7.7	-52.36	-25	-27.36	0-360	149	H

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9.2.7. LTE BAND 12

Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 QPSK 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	704MHz											
2	1.409	-68.92	Pk	28.4	-33.6	9.7	-64.42	-13	-51.42	0-360	149	V
1	1.41	-70.71	Pk	28.4	-33.7	10.5	-65.51	-13	-52.51	0-360	149	H
3	2.109	-69.72	Pk	31.1	-32.6	10.3	-60.92	-13	-47.92	0-360	149	H
4	2.111	-70.21	Pk	31.1	-32.5	9.5	-62.11	-13	-49.11	0-360	149	V
5	2.813	-70.12	Pk	32.5	-31.7	9.6	-59.72	-13	-46.72	0-360	149	H
6	2.815	-70.82	Pk	32.5	-31.7	9	-61.02	-13	-48.02	0-360	149	V
	707.5MHz											
2	1.416	-69.94	Pk	28.4	-33.5	9	-66.04	-13	-53.04	0-360	149	V
1	1.42	-69.65	Pk	28.4	-33.5	9.1	-65.65	-13	-52.65	0-360	149	H
4	2.123	-70.4	Pk	31.2	-32.8	10.2	-61.8	-13	-48.8	0-360	149	V
3	2.124	-69.6	Pk	31.2	-32.8	10.3	-60.9	-13	-47.9	0-360	149	H
6	2.829	-71.8	Pk	32.5	-31.8	9.6	-61.5	-13	-48.5	0-360	149	V
5	2.83	-68.26	Pk	32.5	-31.8	9.7	-57.86	-13	-44.86	0-360	149	H
	711MHz											
1	1.419	-70.02	Pk	28.4	-33.5	9.1	-66.02	-13	-53.02	0-360	149	H
2	1.421	-70.68	Pk	28.3	-33.6	8.9	-67.08	-13	-54.08	0-360	149	V
3	2.129	-70.65	Pk	31.2	-32.8	10.5	-61.75	-13	-48.75	0-360	149	H
4	2.129	-70.74	Pk	31.2	-32.8	10.2	-62.14	-13	-49.14	0-360	149	V
5	2.841	-69.91	Pk	32.5	-32.1	9.3	-60.21	-13	-47.21	0-360	149	H
6	2.843	-69.77	Pk	32.5	-32.1	9.2	-60.17	-13	-47.17	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 16QAM 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	704MHz											
1	1.407	-70.14	Pk	28.5	-33.6	10.5	-64.74	-13	-51.74	0-360	149	H
2	1.408	-69.5	Pk	28.4	-33.6	9.8	-64.9	-13	-51.9	0-360	149	V
4	2.11	-70.29	Pk	31.1	-32.5	9.5	-62.19	-13	-49.19	0-360	149	V
3	2.116	-70.38	Pk	31.2	-32.7	10.3	-61.58	-13	-48.58	0-360	149	H
5	2.817	-69.18	Pk	32.5	-31.8	9.6	-58.88	-13	-45.88	0-360	149	H
6	2.818	-69.08	Pk	32.5	-31.8	9.1	-59.28	-13	-46.28	0-360	149	V
	707.5MHz											
1	1.412	-69.9	Pk	28.4	-33.7	10.1	-65.1	-13	-52.1	0-360	149	H
2	1.416	-69.75	Pk	28.4	-33.5	9	-65.85	-13	-52.85	0-360	149	V
3	2.12	-70.03	Pk	31.2	-32.8	10.4	-61.23	-13	-48.23	0-360	149	H
4	2.124	-69.45	Pk	31.2	-32.8	10.3	-60.75	-13	-47.75	0-360	149	V
6	2.829	-70.01	Pk	32.5	-31.8	9.6	-59.71	-13	-46.71	0-360	149	V
5	2.83	-70.05	Pk	32.5	-31.8	9.7	-59.65	-13	-46.65	0-360	149	H
	711MHz											
1	1.418	-71.24	Pk	28.4	-33.4	9.3	-66.94	-13	-53.94	0-360	149	H
2	1.422	-69.68	Pk	28.3	-33.7	8.8	-66.28	-13	-53.28	0-360	149	V
4	2.134	-70.39	Pk	31.2	-32.8	10.4	-61.59	-13	-48.59	0-360	149	V
3	2.135	-69.34	Pk	31.2	-32.8	11.6	-59.34	-13	-46.34	0-360	149	H
5	2.843	-70.72	Pk	32.5	-32.1	8.9	-61.42	-13	-48.42	0-360	149	H
6	2.846	-70.72	Pk	32.5	-32.1	9.1	-61.22	-13	-48.22	0-360	149	V

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9.2.8. LTE BAND 13

Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 QPSK 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	782MHz											
2	1.565	-69.83	Pk	27.7	-33.5	10.2	-65.43	-40	-25.43	0-360	149	V
1	1.567	-70.43	Pk	27.7	-33.6	9.5	-66.83	-40	-26.83	0-360	149	H
3	2.346	-71.13	Pk	32.2	-32.5	10	-61.43	-13	-48.43	0-360	149	H
4	2.347	-70.78	Pk	32.2	-32.5	9.3	-61.78	-13	-48.78	0-360	149	V
6	3.129	-69.93	Pk	33.2	-31	10	-57.73	-13	-44.73	0-360	149	V
5	3.132	-71.7	Pk	33.2	-31	9.6	-59.9	-13	-46.9	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 16QAM 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	782MHz											
1	1.563	-70.02	Pk	27.7	-33.5	9.1	-66.72	-40	-26.72	0-360	149	H
2	1.565	-69.49	Pk	27.7	-33.5	10.2	-65.09	-40	-25.09	0-360	149	V
3	2.344	-70.67	Pk	32.2	-32.5	10	-60.97	-13	-47.97	0-360	149	H
4	2.345	-70.54	Pk	32.2	-32.5	9.2	-61.64	-13	-48.64	0-360	149	V
6	3.127	-71.61	Pk	33.2	-31	9.9	-59.51	-13	-46.51	0-360	149	V
5	3.132	-70.54	Pk	33.2	-31	9.6	-58.74	-13	-45.74	0-360	149	H

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9.2.9. LTE BAND 17

Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 17 QPSK 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	709MHz											
1	1.419	-70.67	Pk	28.4	-33.4	9.2	-66.47	-13	-53.47	0-360	149	H
2	1.419	-69.81	Pk	28.4	-33.4	9	-65.81	-13	-52.81	0-360	149	V
3	2.123	-70.76	Pk	31.2	-32.8	10.3	-62.06	-13	-49.06	0-360	149	H
4	2.13	-71.45	Pk	31.2	-32.8	10.2	-62.85	-13	-49.85	0-360	149	V
5	2.833	-69.94	Pk	32.5	-31.9	9.5	-59.84	-13	-46.84	0-360	149	H
6	2.835	-71.33	Pk	32.5	-31.9	9.3	-61.43	-13	-48.43	0-360	149	V
	710MHz											
1	1.416	-71.19	Pk	28.4	-33.5	9.5	-66.79	-13	-53.79	0-360	149	H
2	1.42	-70.9	Pk	28.4	-33.5	9	-67	-13	-54	0-360	149	V
4	2.131	-70.29	Pk	31.2	-32.8	10.3	-61.59	-13	-48.59	0-360	149	V
3	2.132	-70.1	Pk	31.2	-32.8	11.1	-60.6	-13	-47.6	0-360	149	H
6	2.88	-70.45	Pk	32.6	-31.9	9	-60.75	-13	-47.75	0-360	149	V
5	2.883	-71.14	Pk	32.6	-32	8.9	-61.64	-13	-48.64	0-360	149	H
	711MHz											
2	1.42	-70.43	Pk	28.4	-33.5	9	-66.53	-13	-53.53	0-360	149	V
1	1.422	-70.82	Pk	28.3	-33.7	8.8	-67.42	-13	-54.42	0-360	149	H
3	2.135	-70.89	Pk	31.2	-32.8	11.6	-60.89	-13	-47.89	0-360	149	H
4	2.135	-71.44	Pk	31.2	-32.8	10.4	-62.64	-13	-49.64	0-360	149	V
5	2.845	-69.24	Pk	32.5	-32.1	8.8	-60.04	-13	-47.04	0-360	149	H
6	2.845	-69.96	Pk	32.5	-32.1	9.2	-60.36	-13	-47.36	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 17 16QAM 10MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	709MHz											
1	1.414	-69.36	Pk	28.4	-33.6	9.8	-64.76	-13	-51.76	0-360	149	H
2	1.419	-69.63	Pk	28.4	-33.4	9	-65.63	-13	-52.63	0-360	149	V
3	2.12	-70.39	Pk	31.2	-32.8	10.4	-61.59	-13	-48.59	0-360	149	H
4	2.125	-69.55	Pk	31.2	-32.8	10.3	-60.85	-13	-47.85	0-360	149	V
5	2.837	-69.69	Pk	32.5	-32	9.5	-59.69	-13	-46.69	0-360	149	H
6	2.837	-70.12	Pk	32.5	-32	9.2	-60.42	-13	-47.42	0-360	149	V
	710MHz											
1	1.416	-70.68	Pk	28.4	-33.5	9.5	-66.28	-13	-53.28	0-360	149	H
2	1.421	-68.74	Pk	28.3	-33.6	8.9	-65.14	-13	-52.14	0-360	149	V
3	2.123	-69.75	Pk	31.2	-32.8	10.3	-61.05	-13	-48.05	0-360	149	H
4	2.126	-70.65	Pk	31.2	-32.8	10.2	-62.05	-13	-49.05	0-360	149	V
6	2.839	-70.73	Pk	32.5	-32	9.2	-61.03	-13	-48.03	0-360	149	V
5	2.84	-70.89	Pk	32.5	-32	9.3	-61.09	-13	-48.09	0-360	149	H
	711MHz											
1	1.42	-70.64	Pk	28.4	-33.5	9	-66.74	-13	-53.74	0-360	149	H
2	1.42	-70.27	Pk	28.4	-33.5	9	-66.37	-13	-53.37	0-360	149	V
4	2.132	-70.11	Pk	31.2	-32.8	10.4	-61.31	-13	-48.31	0-360	149	V
3	2.136	-70.46	Pk	31.2	-32.8	11.7	-60.36	-13	-47.36	0-360	149	H
5	2.838	-71.1	Pk	32.5	-32	9.4	-61.2	-13	-48.2	0-360	149	H
6	2.845	-70	Pk	32.5	-32.1	9.2	-60.4	-13	-47.4	0-360	149	V

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9.2.10. LTE BAND 25

Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 25 QPSK 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1860MHz											
1	3.695	-69.51	Pk	33.2	-30.8	9.9	-57.21	-13	-44.21	0-360	149	V
2	3.721	-69.42	Pk	33.3	-31.1	9.9	-57.32	-13	-44.32	0-360	149	H
3	5.555	-70.25	Pk	35.4	-29.6	8.8	-55.65	-13	-42.65	0-360	149	V
4	5.576	-69.3	Pk	35.5	-30	8.2	-55.6	-13	-42.6	0-360	149	H
5	7.44	-69.27	Pk	36.1	-27.1	7	-53.27	-13	-40.27	0-360	149	H
6	7.446	-73.12	Pk	36.1	-27.2	7.1	-57.12	-13	-44.12	0-360	149	V
	1882.5MHz											
1	3.748	-69.84	Pk	33.3	-31	9.8	-57.74	-13	-44.74	0-360	149	V
2	3.759	-69.32	Pk	33.3	-31.1	9.3	-57.82	-13	-44.82	0-360	149	H
3	5.634	-70.67	Pk	35.5	-29.4	8.6	-55.97	-13	-42.97	0-360	149	V
4	5.647	-70.29	Pk	35.5	-29.4	8	-56.19	-13	-43.19	0-360	149	H
6	7.53	-68.24	Pk	36.2	-27.2	7.5	-51.74	-13	-38.74	0-360	149	H
5	7.53	-70.14	Pk	36.2	-27.2	7.3	-53.84	-13	-40.84	0-360	149	V
	1905MHz											
1	3.804	-70.05	Pk	33.4	-30.5	9.7	-57.45	-13	-44.45	0-360	149	H
2	3.806	-69.75	Pk	33.4	-30.5	9.2	-57.65	-13	-44.65	0-360	149	V
4	5.715	-69.07	Pk	35.5	-29.4	7.9	-55.07	-13	-42.07	0-360	149	H
3	5.715	-69.51	Pk	35.5	-29.4	7.9	-55.51	-13	-42.51	0-360	149	V
5	7.619	-68.09	Pk	36.4	-26.9	7.6	-50.99	-13	-37.99	0-360	149	H
6	7.62	-71.75	Pk	36.4	-27	7.4	-54.95	-13	-41.95	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/24/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 25 16QAM 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1860MHz											
1	3.717	-69.37	Pk	33.3	-31.1	9.8	-57.37	-13	-44.37	0-360	149	H
2	3.717	-70.44	Pk	33.3	-31	9.6	-58.54	-13	-45.54	0-360	149	V
3	5.58	-68.62	Pk	35.5	-29.7	8.3	-54.52	-13	-41.52	0-360	149	H
4	5.58	-70.89	Pk	35.5	-29.7	8.3	-56.79	-13	-43.79	0-360	149	V
5	7.44	-68.66	Pk	36.1	-27.1	6.9	-52.76	-13	-39.76	0-360	149	H
6	7.453	-72.54	Pk	36.1	-27.1	7.5	-56.04	-13	-43.04	0-360	149	V
	1882.5MHz											
1	3.749	-70.33	Pk	33.3	-31	9.8	-58.23	-13	-45.23	0-360	149	V
2	3.758	-69.84	Pk	33.3	-31.1	9.3	-58.34	-13	-45.34	0-360	149	H
3	5.647	-69.42	Pk	35.5	-29.4	7.8	-55.52	-13	-42.52	0-360	149	V
4	5.648	-71.09	Pk	35.5	-29.4	8.1	-56.89	-13	-43.89	0-360	149	H
6	7.53	-67.29	Pk	36.2	-27.2	7.5	-50.79	-13	-37.79	0-360	149	H
5	7.549	-72.44	Pk	36.2	-27	7.3	-55.94	-13	-42.94	0-360	149	V
	1905MHz											
1	3.794	-69.81	Pk	33.4	-30.6	9.6	-57.41	-13	-44.41	0-360	149	V
2	3.807	-70.13	Pk	33.4	-30.5	9.4	-57.83	-13	-44.83	0-360	149	H
4	5.709	-71.6	Pk	35.5	-29.4	7.6	-57.9	-13	-44.9	0-360	149	V
3	5.714	-70.91	Pk	35.5	-29.3	7.9	-56.81	-13	-43.81	0-360	149	H
5	7.62	-68.48	Pk	36.4	-27	7.5	-51.58	-13	-38.58	0-360	149	H
6	7.637	-72.51	Pk	36.4	-26.9	7.2	-55.81	-13	-42.81	0-360	149	V

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9.2.11. LTE BAND 26 Part 90S

Company:	Samsung
Project #:	12563708
Date:	1/17/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 QPSK 15MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	819MHz											
2	1.63	-66.37	Pk	28.2	-33.4	10.3	-61.27	-13	-48.27	0-360	149	V
1	1.634	-67.94	Pk	28.3	-33.4	10.5	-62.54	-13	-49.54	0-360	149	H
4	2.443	-68.57	Pk	32.5	-32	9.4	-58.67	-13	-45.67	0-360	149	V
3	2.444	-67.64	Pk	32.5	-32	8.7	-58.44	-13	-45.44	0-360	149	H
6	3.259	-70.15	Pk	33	-31	9.8	-58.35	-13	-45.35	0-360	149	V
5	3.26	-68.32	Pk	33	-31	10.4	-55.92	-13	-42.92	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	1/17/19
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 16QAM 15MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	819MHz											
2	1.63	-68.41	Pk	28.2	-33.4	10.3	-63.31	-13	-50.31	0-360	149	V
1	1.633	-67.96	Pk	28.3	-33.4	10.6	-62.46	-13	-49.46	0-360	149	H
3	2.444	-68.15	Pk	32.5	-32	8.7	-58.95	-13	-45.95	0-360	149	H
4	2.445	-68.57	Pk	32.5	-32.1	9.4	-58.77	-13	-45.77	0-360	149	V
6	3.26	-69.94	Pk	33	-31	9.9	-58.04	-13	-45.04	0-360	149	V
5	3.264	-69.24	Pk	33	-30.8	10.4	-56.64	-13	-43.64	0-360	149	H

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9.2.12. LTE BAND 26 Part 22

Company:	Samsung
Project #:	12563708
Date:	12/21/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 QPSK 15MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	831.5MHz											
1	1.644	-68.12	Pk	28.5	-33.4	11	-62.02	-13	-49.02	0-360	149	H
2	1.645	-67.82	Pk	28.5	-33.4	10.6	-62.12	-13	-49.12	0-360	149	V
3	2.461	-69.31	Pk	32.6	-32.3	9	-60.01	-13	-47.01	0-360	149	V
4	2.464	-69.48	Pk	32.6	-32.3	8.9	-60.28	-13	-47.28	0-360	149	V
5	3.283	-69.38	Pk	32.9	-31.3	9	-58.78	-13	-45.78	0-360	149	V
6	3.284	-69.51	Pk	32.9	-31.3	9.6	-58.31	-13	-45.31	0-360	149	H
	836.5MHz											
2	1.658	-69.04	Pk	28.8	-33.1	9.4	-63.94	-13	-50.94	0-360	149	V
1	1.659	-67.77	Pk	28.8	-33.1	10.6	-61.47	-13	-48.47	0-360	149	H
3	2.5	-68.37	Pk	32.7	-32.1	9.4	-58.37	-13	-45.37	0-360	149	V
4	2.503	-68.8	Pk	32.7	-32.2	8.9	-59.4	-13	-46.4	0-360	149	H
6	3.326	-69.48	Pk	32.9	-31	9.2	-58.38	-13	-45.38	0-360	149	V
5	3.328	-69.41	Pk	32.9	-30.9	9	-58.41	-13	-45.41	0-360	149	H
	841.5MHz											
1	1.686	-67.08	Pk	29.3	-33.1	10.7	-60.18	-13	-47.18	0-360	149	H
2	1.696	-66.81	Pk	29.5	-33.3	9.6	-61.01	-13	-48.01	0-360	149	V
4	2.569	-68.26	Pk	32.7	-31.9	10.4	-57.06	-13	-44.06	0-360	149	H
3	2.574	-68.46	Pk	32.7	-32	9.8	-57.96	-13	-44.96	0-360	149	V
5	3.371	-69.42	Pk	32.9	-31	9.5	-58.02	-13	-45.02	0-360	149	H
6	3.371	-68.67	Pk	32.9	-31	9.9	-56.87	-13	-43.87	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/21/18
Test Engineer:	19498
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 16QAM 15MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	831.5MHz											
1	1.647	-67.38	Pk	28.6	-33.4	11	-61.18	-13	-48.18	0-360	149	H
2	1.647	-65.97	Pk	28.6	-33.4	10.4	-60.37	-13	-47.37	0-360	149	V
4	2.467	-68.29	Pk	32.6	-32.4	8.8	-59.29	-13	-46.29	0-360	149	V
3	2.468	-67.65	Pk	32.6	-32.4	8.9	-58.55	-13	-45.55	0-360	149	H
5	3.281	-69.19	Pk	32.9	-31.4	9	-58.69	-13	-45.69	0-360	149	V
6	3.286	-69.46	Pk	32.9	-31.3	9.6	-58.26	-13	-45.26	0-360	149	H
	836.5MHz											
2	1.664	-68.1	Pk	28.9	-33.1	8.5	-63.8	-13	-50.8	0-360	149	V
1	1.672	-68.51	Pk	29	-33.3	10.7	-62.11	-13	-49.11	0-360	149	H
3	2.494	-67.62	Pk	32.7	-32.2	8.7	-58.42	-13	-45.42	0-360	149	V
4	2.501	-67.34	Pk	32.7	-32.1	8.9	-57.84	-13	-44.84	0-360	149	H
5	3.324	-70.02	Pk	32.9	-31	9.1	-59.02	-13	-46.02	0-360	149	H
6	3.326	-68.4	Pk	32.9	-31	9.2	-57.3	-13	-44.3	0-360	149	V
	841.5MHz											
1	1.678	-66.52	Pk	29.2	-33.1	10.7	-59.72	-13	-46.72	0-360	149	H
5	1.684	-66.9	Pk	29.3	-33.2	9.8	-61	-13	-48	0-360	149	V
2	2.511	-68.41	Pk	32.7	-32.2	9.1	-58.81	-13	-45.81	0-360	149	H
6	2.517	-69.13	Pk	32.7	-32	9.5	-58.93	-13	-45.93	0-360	149	V
3	3.359	-70.55	Pk	32.9	-30.8	9.5	-58.95	-13	-45.95	0-360	149	H
4	3.359	-69.95	Pk	32.9	-30.7	9.9	-57.85	-13	-44.85	0-360	149	V

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9.2.13. LTE BAND 41

Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 QPSK 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2506MHz											
4	5	-71.86	Pk	34.6	-29.6	9.6	-57.26	-25	-32.26	0-360	149	V
1	5.009	-72.21	Pk	34.6	-30	9.2	-58.41	-25	-33.41	0-360	149	H
5	7.466	-72.08	Pk	36.1	-27.1	7.5	-55.58	-25	-30.58	0-360	149	V
2	7.509	-73.05	Pk	36.2	-27	7.7	-56.15	-25	-31.15	0-360	149	H
3	9.988	-66.91	Pk	37.4	-23.7	8.1	-45.11	-25	-20.11	0-360	149	H
6	9.988	-67.49	Pk	37.4	-23.7	8	-45.79	-25	-20.79	0-360	149	V
	2593MHz											
4	5.168	-72.1	Pk	34.6	-29.5	9.4	-57.6	-25	-32.6	0-360	149	V
1	5.178	-71.04	Pk	34.7	-29.8	8.9	-57.24	-25	-32.24	0-360	149	H
5	7.758	-73.46	Pk	36.4	-26.5	7.8	-55.76	-25	-30.76	0-360	149	V
2	7.771	-73.1	Pk	36.4	-26.5	7.8	-55.4	-25	-30.4	0-360	149	H
6	10.358	-75.64	Pk	37.8	-22.8	7.2	-53.44	-25	-28.44	0-360	149	V
3	10.372	-74.78	Pk	37.8	-22.8	7.8	-51.98	-25	-26.98	0-360	149	H
	2680MHz											
1	5.367	-70.84	Pk	35.1	-29.6	8.8	-56.54	-25	-31.54	0-360	149	H
4	5.377	-71.15	Pk	35.1	-29	8.9	-56.15	-25	-31.15	0-360	149	V
5	8.016	-72.97	Pk	36.4	-26.6	7.4	-55.77	-25	-30.77	0-360	149	V
2	8.041	-72.35	Pk	36.4	-26.3	8.2	-54.05	-25	-29.05	0-360	149	H
3	10.716	-74.53	Pk	37.8	-22.8	7.9	-51.63	-25	-26.63	0-360	149	H
6	10.719	-74.66	Pk	37.8	-22.8	7.8	-51.86	-25	-26.86	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	10/25/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 16QAM 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2506MHz											
4	5.008	-71.21	Pk	34.6	-30	9.3	-57.31	-25	-32.31	0-360	149	V
1	5.01	-72.07	Pk	34.6	-30	9	-58.47	-25	-33.47	0-360	149	H
2	7.507	-72.66	Pk	36.1	-27	7.8	-55.76	-25	-30.76	0-360	149	H
5	7.507	-72.73	Pk	36.1	-26.9	7.9	-55.63	-25	-30.63	0-360	149	V
6	9.988	-72.68	Pk	37.4	-23.7	8	-50.98	-25	-25.98	0-360	149	V
3	9.989	-69.5	Pk	37.4	-23.7	8.2	-47.6	-25	-22.6	0-360	149	H
	2593MHz											
1	5.182	-71.14	Pk	34.7	-29.8	8.9	-57.34	-25	-32.34	0-360	149	H
4	5.195	-71.83	Pk	34.7	-29.8	8.9	-58.03	-25	-33.03	0-360	149	V
5	7.768	-70.72	Pk	36.4	-26.6	7.8	-53.12	-25	-28.12	0-360	149	V
2	7.772	-73.18	Pk	36.4	-26.5	7.8	-55.48	-25	-30.48	0-360	149	H
6	10.336	-66.78	Pk	37.8	-23	6.8	-45.18	-25	-20.18	0-360	149	V
3	10.374	-75.06	Pk	37.8	-22.8	7.8	-52.26	-25	-27.26	0-360	149	H
	2680MHz											
4	5.374	-70.51	Pk	35.1	-29.2	9	-55.61	-25	-30.61	0-360	149	V
1	5.379	-69.88	Pk	35.1	-29.1	8.8	-55.08	-25	-30.08	0-360	149	H
5	8.014	-72.19	Pk	36.4	-26.7	7.3	-55.19	-25	-30.19	0-360	149	V
2	8.037	-73.19	Pk	36.4	-26.2	8.2	-54.79	-25	-29.79	0-360	149	H
6	10.717	-75.92	Pk	37.8	-22.8	7.8	-53.12	-25	-28.12	0-360	149	V
3	10.735	-74.14	Pk	37.9	-22.9	8	-51.14	-25	-26.14	0-360	149	H

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9.2.14. LTE BAND 66

Company:	Samsung
Project #:	12563708
Date:	10/23/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 QPSK 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1720MHz											
1	3.435	-70.02	Pk	32.8	-31.6	8.8	-60.02	-13	-47.02	0-360	149	H
2	3.436	-69.85	Pk	32.8	-31.6	8.9	-59.75	-13	-46.75	0-360	149	V
3	5.127	-70.29	Pk	34.6	-30	8.2	-57.49	-13	-44.49	0-360	149	V
4	5.157	-70.82	Pk	34.6	-29.8	9.1	-56.92	-13	-43.92	0-360	149	H
5	6.837	-70.75	Pk	35.8	-28.3	7.1	-56.15	-13	-43.15	0-360	149	V
6	6.869	-72.43	Pk	35.8	-28.4	6.5	-58.53	-13	-45.53	0-360	149	H
	1745MHz											
1	3.487	-70.69	Pk	32.9	-30.9	9.5	-59.19	-13	-46.19	0-360	149	H
2	3.49	-71.02	Pk	32.9	-31.2	9.6	-59.72	-13	-46.72	0-360	149	V
3	5.231	-69.85	Pk	34.8	-29.7	8.6	-56.15	-13	-43.15	0-360	149	V
4	5.234	-70.86	Pk	34.8	-29.7	9	-56.76	-13	-43.76	0-360	149	H
5	6.98	-71.42	Pk	35.9	-27.9	6.9	-56.52	-13	-43.52	0-360	149	H
6	6.98	-71.84	Pk	35.9	-27.9	6.9	-56.94	-13	-43.94	0-360	149	V
	1770MHz											
1	3.539	-70.98	Pk	33.1	-31	9.4	-59.48	-13	-46.48	0-360	149	H
2	3.54	-69.47	Pk	33.1	-31.1	9.3	-58.17	-13	-45.17	0-360	149	V
3	5.31	-71.07	Pk	34.9	-29.7	8.4	-57.47	-13	-44.47	0-360	149	V
4	5.312	-71.65	Pk	34.9	-29.8	8.1	-58.45	-13	-45.45	0-360	149	H
5	7.08	-72.59	Pk	36	-27.7	7.4	-56.89	-13	-43.89	0-360	149	V
6	7.082	-71.55	Pk	36	-27.7	7.4	-55.85	-13	-42.85	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	10/23/18
Test Engineer:	19497
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 16QAM 20MHz
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1720MHz											
1	3.424	-70.3	Pk	32.8	-31.4	9.3	-59.6	-13	-46.6	0-360	149	V
2	3.435	-70.53	Pk	32.8	-31.6	8.8	-60.53	-13	-47.53	0-360	149	H
3	5.154	-69.93	Pk	34.6	-29.9	9.1	-56.13	-13	-43.13	0-360	149	H
4	5.156	-69.87	Pk	34.6	-29.8	9.2	-55.87	-13	-42.87	0-360	149	V
5	6.875	-73.16	Pk	35.8	-28.4	6.7	-59.06	-13	-46.06	0-360	149	V
6	6.879	-72.49	Pk	35.8	-28.5	6.7	-58.49	-13	-45.49	0-360	149	H
	1745MHz											
1	3.488	-71.8	Pk	32.9	-31	9.5	-60.4	-13	-47.4	0-360	149	H
2	3.488	-70.64	Pk	32.9	-31.1	9.5	-59.34	-13	-46.34	0-360	149	V
3	5.237	-69.82	Pk	34.8	-29.5	9.2	-55.32	-13	-42.32	0-360	149	H
4	5.238	-69.97	Pk	34.8	-29.6	8.8	-55.97	-13	-42.97	0-360	149	V
5	6.979	-72.57	Pk	35.9	-27.9	6.9	-57.67	-13	-44.67	0-360	149	V
6	6.981	-72.13	Pk	35.9	-27.9	6.8	-57.33	-13	-44.33	0-360	149	H
	1770MHz											
1	3.537	-69.92	Pk	33	-31	9.5	-58.42	-13	-45.42	0-360	149	V
2	3.54	-69.99	Pk	33.1	-31.1	9.4	-58.59	-13	-45.59	0-360	149	H
3	5.305	-70.32	Pk	34.9	-30	8.3	-57.12	-13	-44.12	0-360	149	V
4	5.308	-71.86	Pk	34.9	-29.7	8.5	-58.16	-13	-45.16	0-360	149	H
5	7.082	-72.06	Pk	36	-27.7	7.4	-56.36	-13	-43.36	0-360	149	V
6	7.084	-70.88	Pk	36	-27.8	7.5	-55.18	-13	-42.18	0-360	149	H

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9.2.15. SPOT CHECK DATA HARMONICS AND SPURIOUS EMISSIONS (CERAMIC)

GSM

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	GPRS 850 High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	848.8MHz											
1	1.698	-60.81	Pk	29.5	-33.3	10	-54.61	-13	-41.61	0-360	149	H
2	1.698	-57.26	Pk	29.5	-33.3	9.3	-51.76	-13	-38.76	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	GPRS 1900 Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1880MHz											
1	7.487	-73.28	Pk	36.1	-26.9	7.4	-56.68	-13	-43.68	0-360	149	H
2	7.487	-73.65	Pk	36.1	-26.9	7.4	-57.05	-13	-44.05	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	GPRS 850 High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	848.8MHz											
1	3.298	-71.91	Pk	32.9	-31.1	9.8	-60.31	-13	-47.31	0-360	149	H
2	3.298	-71.79	Pk	32.9	-31.1	9.9	-60.09	-13	-47.09	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	EGPRS 1900 Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1850.2MHz											
1	7.348	-72.91	Pk	36	-27.3	7.5	-56.71	-13	-43.71	0-360	149	H
2	7.348	-73.33	Pk	36	-27.3	7.6	-57.03	-13	-44.03	0-360	149	V

WCDMA

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL 99 B5 Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	826.4MHz											
1	3.308	-71.21	Pk	32.9	-30.9	9.6	-59.61	-13	-46.61	0-360	149	H
2	3.308	-70.04	Pk	32.9	-30.9	9.9	-58.14	-13	-45.14	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL 99 B4 Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1732.6MHz											
1	5.197	-71.99	Pk	34.7	-29.8	9.2	-57.89	-13	-44.89	0-360	149	H
2	5.197	-73.38	Pk	34.7	-29.8	9.2	-59.28	-13	-46.28	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL 99 B2 Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1880MHz											
1	7.516	-73.79	Pk	36.2	-27.3	7.6	-57.29	-13	-44.29	0-360	149	H
2	7.516	-73.75	Pk	36.2	-27.3	7.5	-57.35	-13	-44.35	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	REL 99 B2 Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1880MHz											
1	7.516	-73.79	Pk	36.2	-27.3	7.6	-57.29	-13	-44.29	0-360	149	H
2	7.516	-73.75	Pk	36.2	-27.3	7.5	-57.35	-13	-44.35	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B5 Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	826.4MHz											
1	3.31	-71.43	Pk	32.9	-31	9.6	-59.93	-13	-46.93	0-360	149	H
2	3.31	-71.47	Pk	32.9	-31	9.8	-59.77	-13	-46.77	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B4 Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1732.6MHz											
1	5.198	-71.97	Pk	34.7	-29.8	9.3	-57.77	-13	-44.77	0-360	149	H
2	5.198	-71.35	Pk	34.7	-29.8	9.2	-57.25	-13	-44.25	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	HSDPA B2 High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1907.6MHz											
1	7.629	-72.73	Pk	36.4	-27	7.4	-55.93	-13	-42.93	0-360	149	H
2	7.629	-72.51	Pk	36.4	-27	7.4	-55.71	-13	-42.71	0-360	149	V

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LTE BAND 2

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 QPSK 20MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1860MHz											
1	10.865	-74.82	Pk	38	-22.9	7.3	-52.42	-13	-39.42	0-360	149	H
2	10.865	-75.81	Pk	38	-22.9	7.3	-53.41	-13	-40.41	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 2 16QAM 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1900MHz											
1	12.697	-77.3	Pk	39.2	-22.1	9.2	-51	-13	-38	0-360	149	H
2	12.697	-77.76	Pk	39.2	-22.1	9.4	-51.26	-13	-38.26	0-360	149	V

LTE BAND 4

Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 QPSK 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1745MHz											
4	5.236	-70.97	Pk	34.8	-29.5	8.8	-56.87	-13	-43.87	0-360	149	V
3	5.237	-70.98	Pk	34.8	-29.6	9.1	-56.68	-13	-43.68	0-360	149	H

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Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 4 16QAM 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1745MHz											
1	5.238	-71.62	Pk	34.8	-29.6	9.1	-57.32	-13	-44.32	0-360	149	H
2	5.239	-71.37	Pk	34.8	-29.7	8.7	-57.57	-13	-44.57	0-360	149	V

LTE BAND 5

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 QPSK 10MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	836.5MHz											
1	6.28	-73.6	Pk	35.6	-29.2	6.8	-60.4	-13	-47.4	0-360	149	H
2	6.28	-72.33	Pk	35.6	-29.2	6.8	-59.13	-13	-46.13	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 5 16QAM 10MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	836.5MHz											
1	3.333	-72.31	Pk	32.9	-31.1	8.6	-61.91	-13	-48.91	0-360	149	H
2	3.333	-71.99	Pk	32.9	-31.1	8.9	-61.29	-13	-48.29	0-360	149	V

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LTE BAND 7

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 7 QPSK 20MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2510MHz											
1	10.047	-75.86	Pk	37.5	-23.7	7.9	-54.16	-25	-29.16	0-360	149	H
2	10.047	-75.61	Pk	37.5	-23.7	7.8	-54.01	-25	-29.01	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 7 16QAM 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2560MHz											
1	10.204	-74.1	Pk	37.8	-23.3	6.9	-52.7	-25	-27.7	0-360	149	H
2	10.204	-70.51	Pk	37.8	-23.3	6.9	-49.11	-25	-24.11	0-360	149	V

LTE BAND 12

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 QPSK 10MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	707.5MHz											
1	2.83	-70.55	Pk	32.5	-31.8	9.7	-60.15	-13	-47.15	0-360	149	H
2	2.83	-68.78	Pk	32.5	-31.8	9.5	-58.58	-13	-45.58	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 12 16QAM 10MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	704MHz											
1	2.818	-69.38	Pk	32.5	-31.8	9.6	-59.08	-13	-46.08	0-360	149	H
2	2.818	-69.35	Pk	32.5	-31.8	9.1	-59.55	-13	-46.55	0-360	149	V

LTE BAND 13

Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 QPSK 5MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	782MHz											
1	3.128	-71.24	Pk	33.2	-31	9.4	-59.64	-13	-46.64	0-360	149	H
2	3.129	-70.44	Pk	33.2	-30.9	10	-58.14	-13	-45.14	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 13 16QAM 5MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	782MHz											
2	3.129	-70.23	Pk	33.2	-30.9	10	-57.93	-13	-44.93	0-360	149	V
1	3.134	-71.06	Pk	33.2	-31	9.8	-59.06	-13	-46.06	0-360	149	H

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LTE BAND 17

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 17 QPSK 10MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	709MHz											
1	2.833	-70.68	Pk	32.5	-31.9	9.5	-60.58	-13	-47.58	0-360	149	H
2	2.833	-70.78	Pk	32.5	-31.9	9.4	-60.78	-13	-47.78	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 17 16QAM 10MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	709MHz											
1	2.837	-70.36	Pk	32.5	-32	9.5	-60.36	-13	-47.36	0-360	149	H
2	2.837	-69	Pk	32.5	-32	9.2	-59.3	-13	-46.3	0-360	149	V

LTE BAND 25

Company:	Samsung
Project #:	12563708
Date:	12/10/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 25 QPSK 20MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1882.5MHz											
1	7.401	-69.23	Pk	36.2	-27.4	7.2	-53.23	-13	-40.23	0-360	102	H
2	7.401	-63.82	Pk	36.2	-27.4	7.2	-47.82	-13	-34.82	0-360	299	V

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Company:	Samsung
Project #:	12563708
Date:	12/10/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 25 16QAM 20MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1882.5MHz											
1	7.401	-68.54	Pk	36.2	-27.4	7.2	-52.54	-13	-39.54	0-360	249	H
2	7.401	-65.13	Pk	36.2	-27.4	7.2	-49.13	-13	-36.13	0-360	400	V

LTE BAND 26

Company:	Samsung
Project #:	12563708
Date:	12/21/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 QPSK 15MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	841.5MHz											
2	3.37	-68.31	Pk	32.9	-31	9.9	-56.51	-13	-43.51	0-360	149	V
1	3.373	-68.93	Pk	32.8	-31.2	9.3	-58.03	-13	-45.03	0-360	149	H

Company:	Samsung
Project #:	12563708
Date:	12/21/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 26 16QAM 15MHz Mid Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	836.5MHz											
1	3.325	-70.25	Pk	32.9	-31	9.1	-59.25	-13	-46.25	0-360	149	H
2	3.328	-70.3	Pk	32.9	-30.9	9.2	-59.1	-13	-46.1	0-360	149	V

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LTE BAND 41

Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 QPSK 10MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2501MHz											
1	9.988	-75.46	Pk	37.4	-23.7	8.1	-53.66	-25	-28.66	0-360	149	H
2	9.989	-75.42	Pk	37.4	-23.7	8	-53.72	-25	-28.72	0-360	149	V

Company:	Samsung
Project #:	12563708
Date:	12/11/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 41 16QAM 10MHz Low Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	2501MHz											
1	9.986	-74.81	Pk	37.4	-23.7	8.2	-52.91	-25	-27.91	0-360	149	H
2	9.989	-75.15	Pk	37.4	-23.7	8	-53.45	-25	-28.45	0-360	149	V

LTE BAND 66

Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 QPSK 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1770MHz											
1	7.082	-71.86	Pk	36	-27.7	7.4	-56.16	-13	-43.16	0-360	149	H
2	7.082	-71.75	Pk	36	-27.7	7.5	-55.95	-13	-42.95	0-360	149	V

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Company:	Samsung
Project #:	12563708
Date:	12/20/18
Test Engineer:	19480
Configuration:	EUT+ Support Equipment
Mode:	LTE 66 16QAM 20MHz High Channel
Chamber #:	Chamber B

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Amp/Cbl (dB)	Corrected Reading (dBm)	Limit	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
	1770MHz											
1	7.08	-72.92	Pk	36	-27.7	7.3	-57.32	-13	-44.32	0-360	149	H
2	7.08	-72.99	Pk	36	-27.7	7.4	-57.29	-13	-44.29	0-360	149	V

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