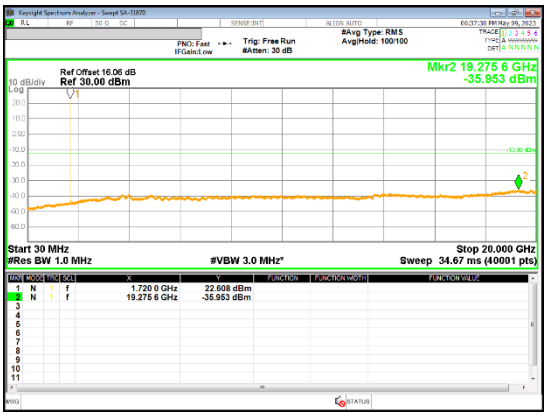
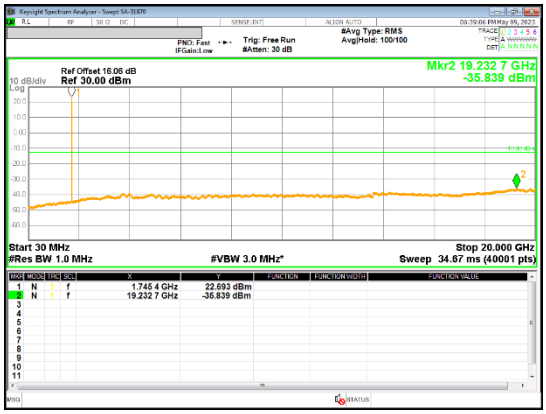
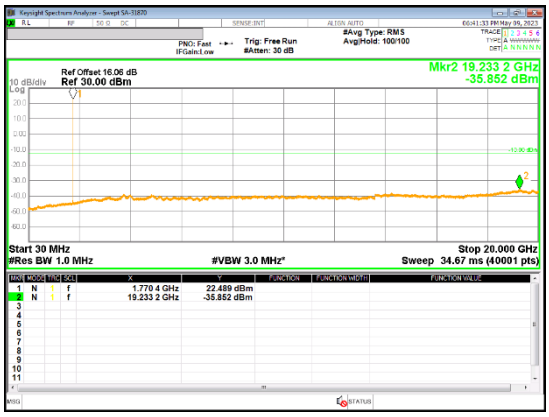
LTE Band 66B (UL CA) (ANT B)

10+10 MHz QPSK	 Low channel	 Mid channel
	 High channel	

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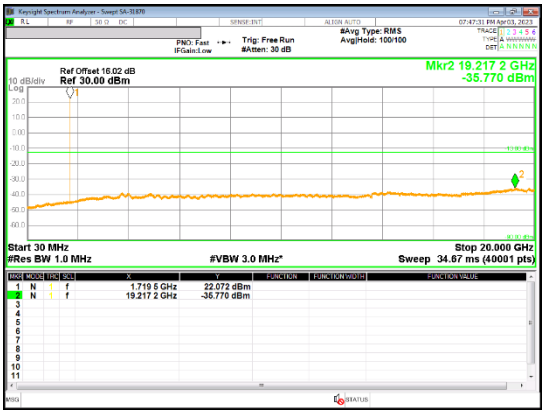
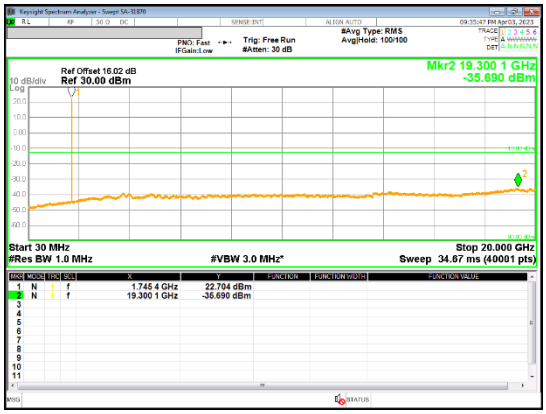
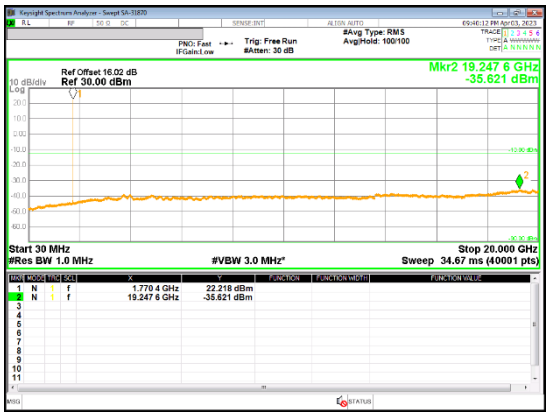
LTE Band 66B (UL CA) (ANT F)

10+10 MHz QPSK	 Low channel	 Mid channel
	 High channel	

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LTE Band 66C (UL CA) (ANT B)

20+20 MHz QPSK	 Low channel	 Mid channel
	 High channel	

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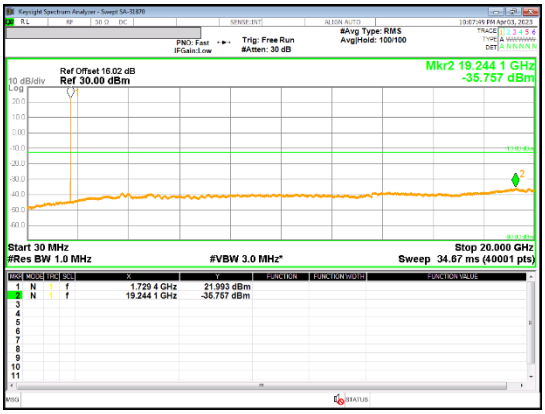
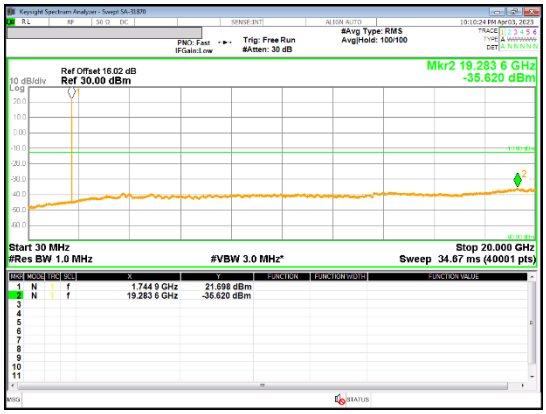
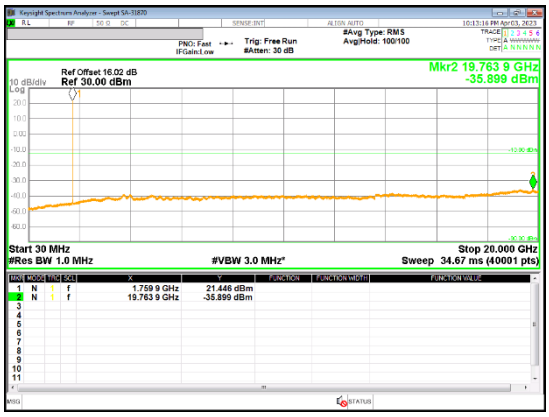
LTE Band 66C (UL CA) (ANT F)

20+20 MHz QPSK	 Low channel	 Mid channel
	 High channel	

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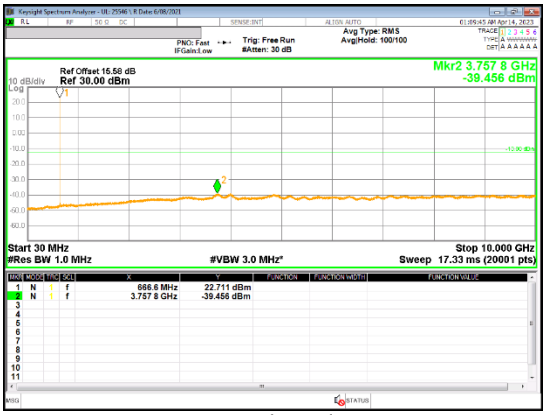
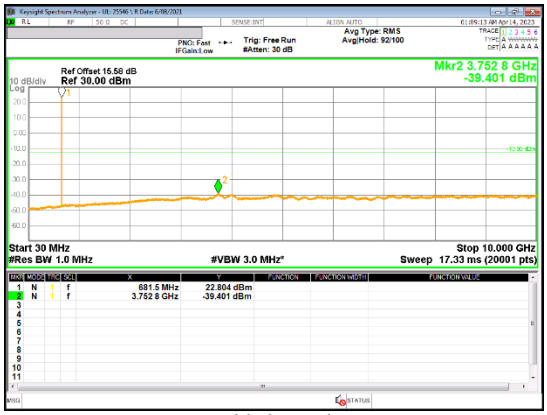
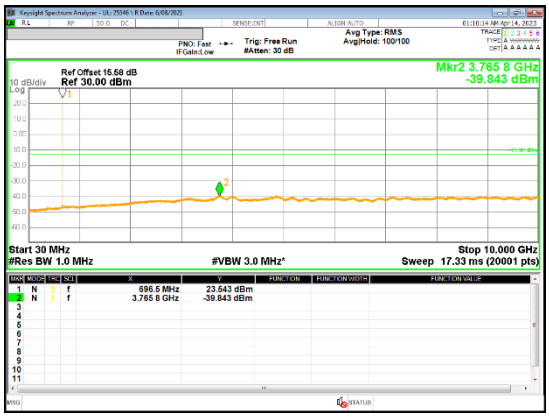
LTE Band 71

5 MHz QPSK	 Low channel	 Mid channel
	 High channel	

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NR Band n7 (ANT B)

<table>
<tr><td rowspan="2">15 MHz
QPSK</td><td> 

DFT-s_OFDM_Low channel</td><td> 

DFT-s_OFDM_Mid channel</td></tr>
<tr><td colspan="2"> 

DFT-s_OFDM_High channel</td></tr>
</table>

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NR Band n7 (ANT F)

40 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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NR Band n12

5 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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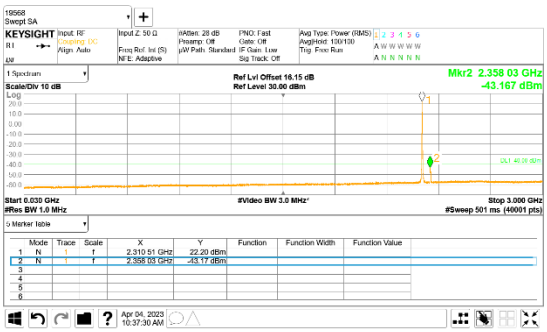
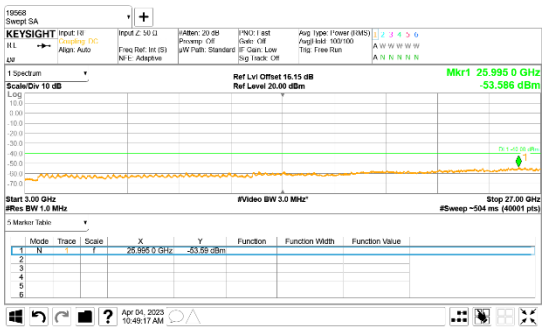
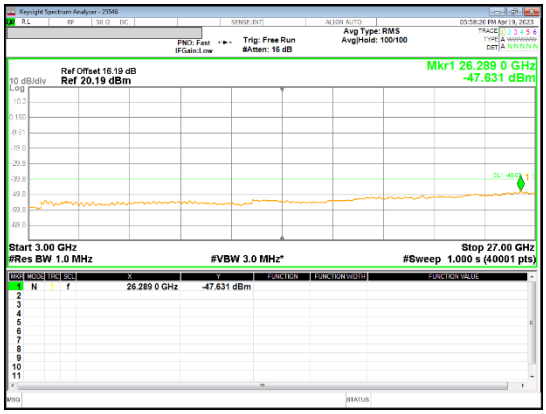
NR Band n30 (ANT B)

10 MHz QPSK	 DFT-s_OFDM_Mid channel (30 MHz - 3 GHz)	 DFT-s_OFDM_Mid channel (3 GHz - 27 GHz)

NR Band n30 (ANT F)

10 MHz QPSK	 DFT-s_OFDM_Mid channel	 DFT-s_OFDM_Mid channel

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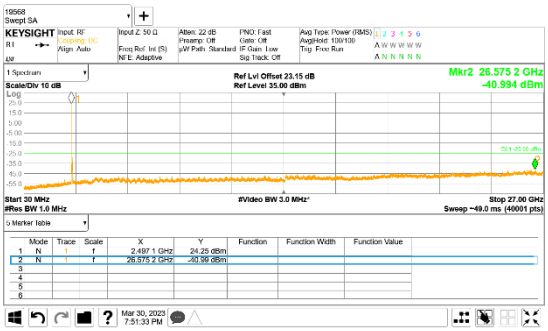
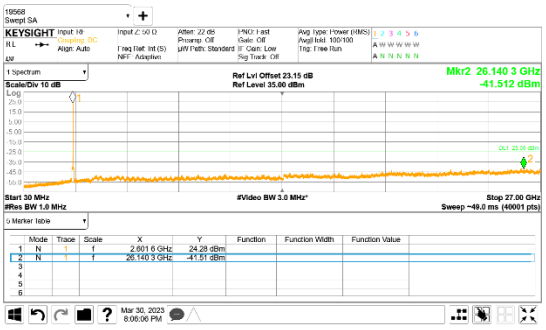
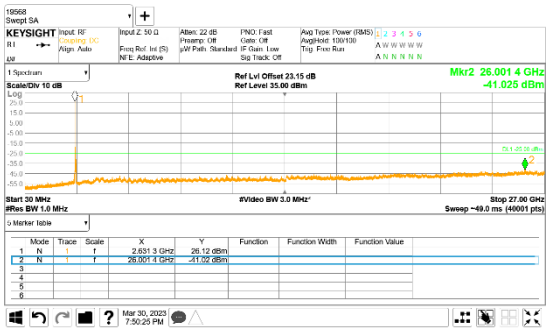
NR Band n41(PC2) (ANT B)

60 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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NR Band n41(PC2) (ANT F)

60 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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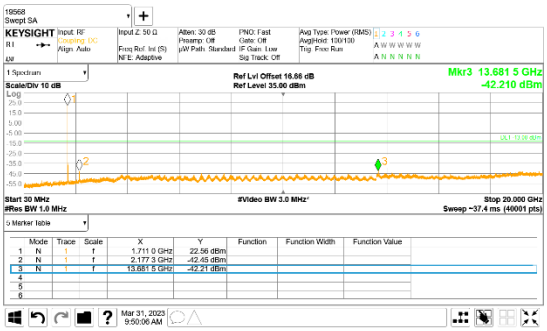
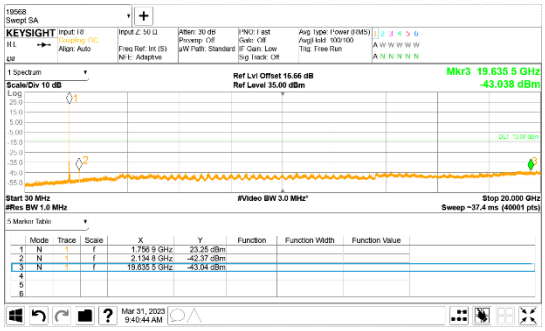
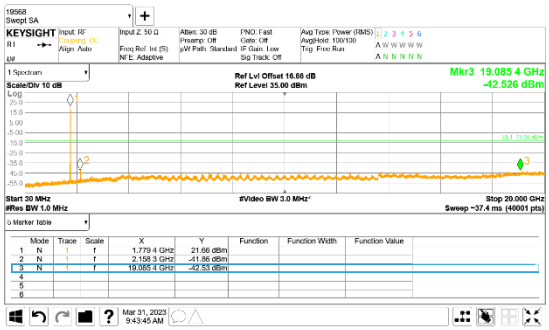
NR Band n66 (ANT B)

25 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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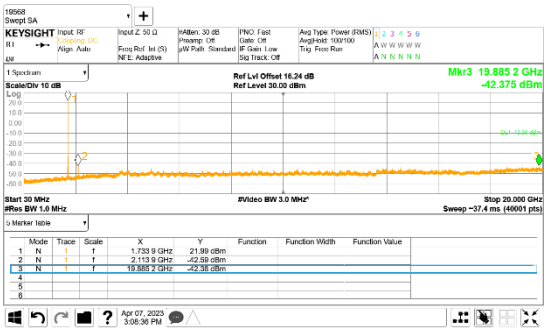
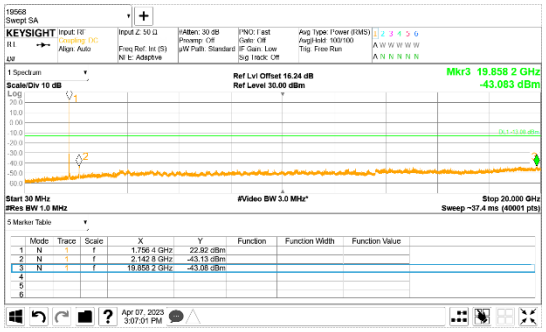
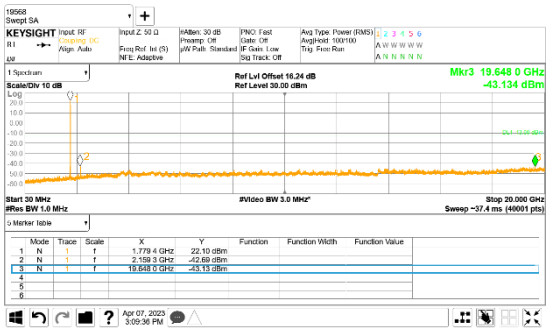
NR Band n66 (ANT F)

25 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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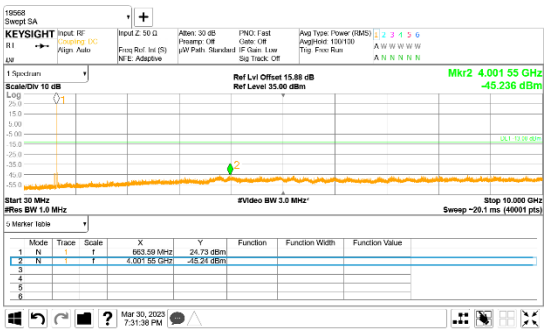
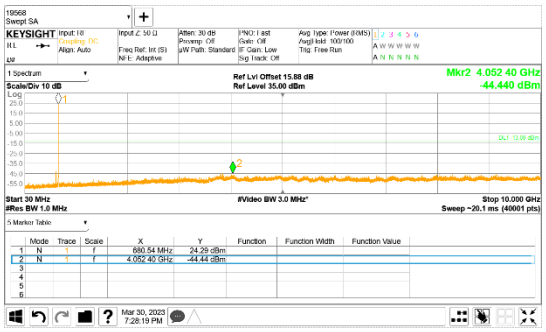
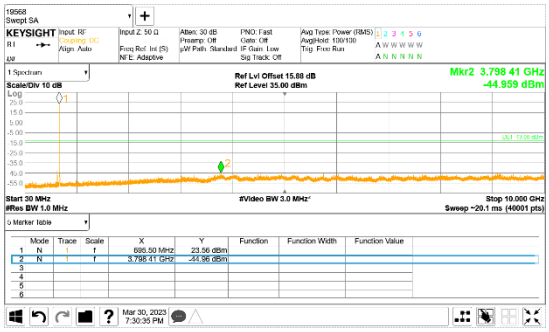
NR Band n71

5 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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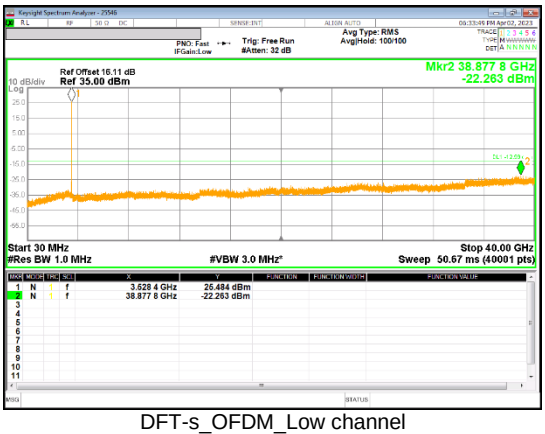
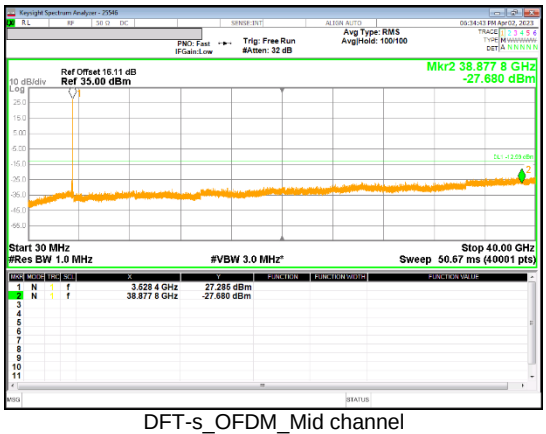
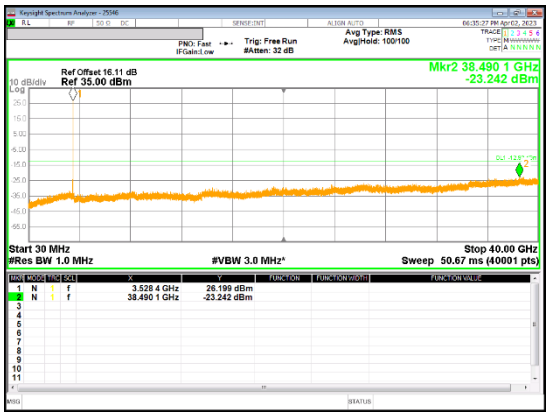
NR Band n77(PC2, 3450 – 3550 MHz)

80 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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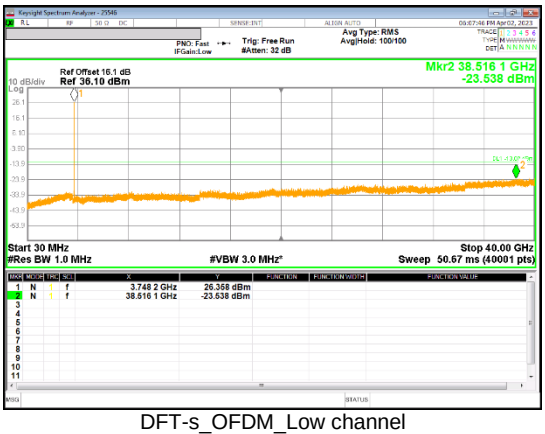
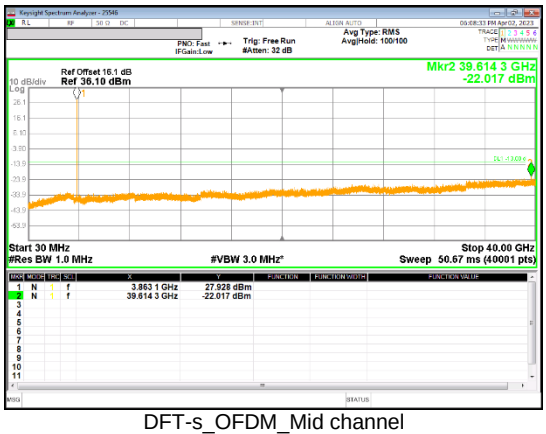
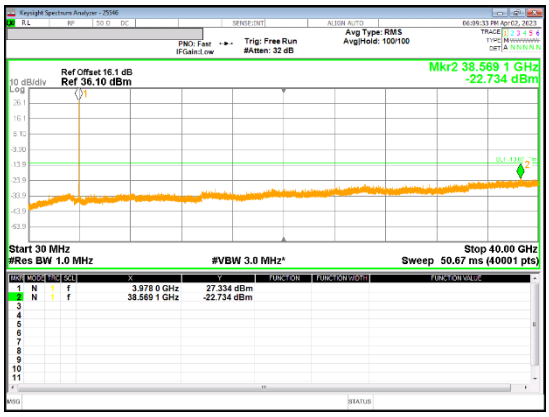
NR Band n77(PC2, 3700 – 3980 MHz)

50 MHz QPSK	 DFT-s_OFDM_Low channel	 DFT-s_OFDM_Mid channel
	 DFT-s_OFDM_High channel	

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8.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §27.54

LIMITS

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

RESULTS

See the following pages.

NOTE

Test were performed each lowest or highest frequency on the modulation condition of more wide bandwidth.(Please refer to section 9.1.1 OBW results)

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8.6.1. FREQUENCY STABILITY RESULTS

WCDMA Band 4 (Lowest Frequency: HSDPA/ Highest Frequency: HSDPA)

Test Date	2023-03-16
Test Engineer	19568

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.3205	1754.6787		
Extreme (50C)		1710.3205	1754.6787	34.0	0.020
Extreme (40C)		1710.3205	1754.6787	25.9	0.015
Extreme (30C)		1710.3205	1754.6787	23.4	0.014
Extreme (10C)		1710.3205	1754.6787	24.5	0.014
Extreme (0C)		1710.3205	1754.6787	17.4	0.010
Extreme (-10C)		1710.3205	1754.6787	14.7	0.008
Extreme (-20C)		1710.3205	1754.6787	16.7	0.010
Extreme (-30C)		1710.3205	1754.6787	20.4	0.012
20C	15%	1710.3205	1754.6787	15.9	0.009
	-15%	1710.3205	1754.6787	14.4	0.008
	End Point	1710.3205	1754.6787	14.5	0.008

LTE Band 7 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-03-22
Test Engineer	19568

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2500.2508	2569.7512		
Extreme (50C)		2500.2508	2569.7512	16.3	0.006
Extreme (40C)		2500.2508	2569.7512	18.4	0.007
Extreme (30C)		2500.2508	2569.7512	20.6	0.008
Extreme (10C)		2500.2508	2569.7512	13.2	0.005
Extreme (0C)		2500.2508	2569.7512	11.0	0.004
Extreme (-10C)		2500.2508	2569.7512	13.5	0.005
Extreme (-20C)		2500.2508	2569.7512	16.5	0.006
Extreme (-30C)		2500.2508	2569.7512	18.2	0.007
20C	15%	2500.2508	2569.7512	9.4	0.004
	-15%	2500.2508	2569.7512	9.2	0.004
	End Point	2500.2508	2569.7512	7.7	0.003

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LTE Band 12 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-03-24
Test Engineer	19568

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	699.1555	715.8456		
Extreme (50C)		699.1555	715.8456	15.7	0.022
Extreme (40C)		699.1555	715.8456	17.8	0.025
Extreme (30C)		699.1555	715.8456	20.1	0.028
Extreme (10C)		699.1555	715.8456	12.6	0.018
Extreme (0C)		699.1555	715.8456	10.5	0.015
Extreme (-10C)		699.1555	715.8456	13.0	0.018
Extreme (-20C)		699.1555	715.8456	15.9	0.022
Extreme (-30C)		699.1555	715.8456	17.6	0.025
20C	15%	699.1555	715.8456	15.8	0.022
	-15%	699.1555	715.8456	4.6	0.006
	End Point	699.1555	715.8456	7.2	0.010

LTE Band 13 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-03-23
Test Engineer	19568

Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	777.2601	786.7467		
Extreme (50C)		777.2601	786.7467	16.2	0.021
Extreme (40C)		777.2601	786.7467	18.3	0.023
Extreme (30C)		777.2601	786.7467	20.5	0.026
Extreme (10C)		777.2601	786.7467	13.1	0.017
Extreme (0C)		777.2601	786.7467	10.9	0.014
Extreme (-10C)		777.2601	786.7467	13.5	0.017
Extreme (-20C)		777.2601	786.7467	16.4	0.021
Extreme (-30C)		777.2601	786.7467	18.1	0.023
20C	15%	777.2601	786.7467	4.8	0.006
	-15%	777.2601	786.7467	5.3	0.007
	End Point	777.2601	786.7467	5.2	0.007

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LTE Band 30 (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Test Date	2023-03-29
Test Engineer	19568

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2305.2509	2314.7524		
Extreme (50C)		2305.2509	2314.7524	11.2	0.005
Extreme (40C)		2305.2509	2314.7524	13.3	0.006
Extreme (30C)		2305.2509	2314.7524	15.6	0.007
Extreme (10C)		2305.2509	2314.7524	8.1	0.004
Extreme (0C)		2305.2509	2314.7524	6.0	0.003
Extreme (-10C)		2305.2509	2314.7524	8.5	0.004
Extreme (-20C)		2305.2509	2314.7524	11.4	0.005
Extreme (-30C)		2305.2509	2314.7524	13.1	0.006
20C	15%	2305.2509	2314.7524	6.7	0.003
	-15%	2305.2509	2314.7524	6.6	0.003
	End Point	2305.2509	2314.7524	6.3	0.003

LTE Band 41(PC2) (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Test Date	2023-04-03
Test Engineer	19568

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.2546	2689.7484		
Extreme (50C)		2496.2546	2689.7484	7.7	0.003
Extreme (40C)		2496.2546	2689.7484	9.6	0.004
Extreme (30C)		2496.2546	2689.7484	5.4	0.002
Extreme (10C)		2496.2546	2689.7484	6.9	0.003
Extreme (0C)		2496.2546	2689.7484	11.7	0.005
Extreme (-10C)		2496.2546	2689.7484	9.9	0.004
Extreme (-20C)		2496.2546	2689.7484	13.7	0.005
Extreme (-30C)		2496.2546	2689.7484	8.4	0.003
20C	15%	2496.2546	2689.7484	15.7	0.006
	-15%	2496.2546	2689.7484	13.1	0.005
	End Point	2496.2546	2689.7484	14.4	0.006

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LTE Band 66 (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Test Date	2023-04-04
Test Engineer	19568

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.1548	1779.8474		
Extreme (50C)		1710.1548	1779.8474	11.2	0.006
Extreme (40C)		1710.1548	1779.8474	12.6	0.007
Extreme (30C)		1710.1548	1779.8474	7.9	0.005
Extreme (10C)		1710.1548	1779.8474	8.9	0.005
Extreme (0C)		1710.1548	1779.8474	13.2	0.008
Extreme (-10C)		1710.1548	1779.8474	10.9	0.006
Extreme (-20C)		1710.1548	1779.8474	14.2	0.008
Extreme (-30C)		1710.1548	1779.8474	8.4	0.005
20C	15%	1710.1548	1779.8474	6.1	0.004
	-15%	1710.1548	1779.8474	6.4	0.004
	End Point	1710.1548	1779.8474	6.0	0.003

LTE Band 71 (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Test Date	2023-04-06
Test Engineer	19568

Limit		663	698	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	663.2496	697.7491		
Extreme (50C)		663.2496	697.7491	10.9	0.016
Extreme (40C)		663.2496	697.7491	12.6	0.018
Extreme (30C)		663.2496	697.7491	8.2	0.012
Extreme (10C)		663.2496	697.7491	9.4	0.014
Extreme (0C)		663.2496	697.7491	14.0	0.021
Extreme (-10C)		663.2496	697.7491	11.9	0.018
Extreme (-20C)		663.2496	697.7491	15.5	0.023
Extreme (-30C)		663.2496	697.7491	9.9	0.015
20C	15%	663.2496	697.7491	4.1	0.006
	-15%	663.2496	697.7491	4.5	0.007
	End Point	663.2496	697.7491	6.2	0.009

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5G NR Band n7 (Lowest Frequency:QPSK / Highest Frequency: 16QAM)

Test Date	2023-04-14
Test Engineer	47989

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2500.2615	2569.2360		
Extreme (50C)		2500.2615	2569.2360	15.4	0.006
Extreme (40C)		2500.2615	2569.2360	11.2	0.004
Extreme (30C)		2500.2615	2569.2360	12.7	0.005
Extreme (10C)		2500.2615	2569.2360	11.4	0.004
Extreme (0C)		2500.2615	2569.2360	9.6	0.004
Extreme (-10C)		2500.2615	2569.2360	7.2	0.003
Extreme (-20C)		2500.2615	2569.2360	8.6	0.003
Extreme (-30C)		2500.2615	2569.2360	9.6	0.004
20C	15%	2500.2615	2569.2360	13.3	0.005
	-15%	2500.2615	2569.2360	10.6	0.004
	End Point	2500.2615	2569.2360	12.2	0.005

5G NR Band n12 (Lowest Frequency: 16QAM / Highest Frequency: QPSK)

Test Date	2023-04-13
Test Engineer	19568

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	699.2563	715.7519		
Extreme (50C)		699.2563	715.7519	15.8	0.022
Extreme (40C)		699.2563	715.7519	18.5	0.026
Extreme (30C)		699.2563	715.7519	21.3	0.030
Extreme (10C)		699.2563	715.7519	14.4	0.020
Extreme (0C)		699.2563	715.7519	12.8	0.018
Extreme (-10C)		699.2563	715.7519	15.9	0.023
Extreme (-20C)		699.2563	715.7519	19.4	0.027
Extreme (-30C)		699.2563	715.7519	21.7	0.031
20C	15%	699.2563	715.7519	2.3	0.003
	-15%	699.2563	715.7519	1.4	0.002
	End Point	699.2563	715.7519	1.1	0.002

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5G NR Band n30 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-04-12
Test Engineer	19568

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2305.2528	2314.7412		
Extreme (50C)		2305.2528	2314.7412	12.3	0.005
Extreme (40C)		2305.2528	2314.7412	16.0	0.007
Extreme (30C)		2305.2528	2314.7412	20.2	0.009
Extreme (10C)		2305.2528	2314.7412	11.3	0.005
Extreme (0C)		2305.2528	2314.7412	8.9	0.004
Extreme (-10C)		2305.2528	2314.7412	13.6	0.006
Extreme (-20C)		2305.2528	2314.7412	19.4	0.008
Extreme (-30C)		2305.2528	2314.7412	23.6	0.010
20C	15%	2305.2528	2314.7412	12.5	0.005
	-15%	2305.2528	2314.7412	11.9	0.005
	End Point	2305.2528	2314.7412	13.3	0.006

5G NR Band n41(PC2) (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Normal (20C)		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	2496.7175	2689.2947		
Extreme (50C)		2496.7175	2689.2947	10.5	0.004
Extreme (40C)		2496.7175	2689.2947	9.6	0.004
Extreme (30C)		2496.7175	2689.2947	5.4	0.002
Extreme (10C)		2496.7175	2689.2947	6.9	0.003
Extreme (0C)		2496.7175	2689.2947	11.7	0.005
Extreme (-10C)		2496.7175	2689.2947	9.9	0.004
Extreme (-20C)		2496.7175	2689.2947	13.7	0.005
Extreme (-30C)		2496.7175	2689.2947	8.4	0.003
20C	15%	2496.7175	2689.2951	435.0	0.168
	-15%	2496.7175	2689.2952	468.0	0.180
	End Point	2496.7175	2689.2953	573.0	0.221

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5G NR Band n66 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2023-04-10
Test Engineer	19568

Limit		1710	1780	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1710.2581	1779.7387		
Extreme (50C)		1710.2581	1779.7387	12.4	0.007
Extreme (40C)		1710.2581	1779.7387	13.9	0.008
Extreme (30C)		1710.2581	1779.7387	9.3	0.005
Extreme (10C)		1710.2581	1779.7387	10.4	0.006
Extreme (0C)		1710.2581	1779.7387	14.7	0.008
Extreme (-10C)		1710.2581	1779.7387	12.3	0.007
Extreme (-20C)		1710.2581	1779.7387	15.5	0.009
Extreme (-30C)		1710.2581	1779.7387	9.6	0.006
20C	15%	1710.2581	1779.7387	6.7	0.004
	-15%	1710.2581	1779.7387	6.4	0.004
	End Point	1710.2581	1779.7387	5.2	0.003

5G NR Band n71 (Lowest Frequency: QPSK / Highest Frequency: 16QAM)

Test Date	2023-04-11
Test Engineer	19568

Limit		663	698	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	663.2547	697.7473		
Extreme (50C)		663.2547	697.7473	12.6	0.019
Extreme (40C)		663.2547	697.7473	14.0	0.021
Extreme (30C)		663.2547	697.7473	9.3	0.014
Extreme (10C)		663.2547	697.7473	10.2	0.015
Extreme (0C)		663.2547	697.7473	14.5	0.021
Extreme (-10C)		663.2547	697.7473	12.1	0.018
Extreme (-20C)		663.2547	697.7473	15.4	0.023
Extreme (-30C)		663.2547	697.7473	9.5	0.014
20C	15%	663.2547	697.7473	56.0	0.082
	-15%	663.2547	697.7473	71.1	0.104
	End Point	663.2547	697.7473	72.1	0.106

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NR Band n77(PC2)_3450 – 3550 MHz
(Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Limit		3450	3550	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3450.6947	3549.2880		
Extreme (50C)		3450.6947	3549.2880	14.2	0.004
Extreme (40C)		3450.6947	3549.2880	15.9	0.005
Extreme (30C)		3450.6947	3549.2880	11.5	0.003
Extreme (10C)		3450.6947	3549.2880	12.7	0.004
Extreme (0C)		3450.6947	3549.2880	17.3	0.005
Extreme (-10C)		3450.6947	3549.2880	15.2	0.004
Extreme (-20C)		3450.6947	3549.2880	18.8	0.005
Extreme (-30C)		3450.6947	3549.2880	13.2	0.004
20C	15%	3450.6947	3549.2882	289.0	0.083
	-15%	3450.6947	3549.2882	211.6	0.060
	End Point	3450.6947	3549.2882	239.1	0.068

NR Band n77(PC2)_3700 – 3980 MHz
(Lowest Frequency: QPSK / Highest Frequency: QPSK)

Limit		3700	3980	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	3700.7069	3979.2986		
Extreme (50C)		3700.7069	3979.2986	13.0	0.003
Extreme (40C)		3700.7069	3979.2986	14.7	0.004
Extreme (30C)		3700.7069	3979.2986	10.3	0.003
Extreme (10C)		3700.7069	3979.2986	11.5	0.003
Extreme (0C)		3700.7069	3979.2986	16.1	0.004
Extreme (-10C)		3700.7069	3979.2986	14.0	0.004
Extreme (-20C)		3700.7069	3979.2986	17.6	0.005
Extreme (-30C)		3700.7069	3979.2986	12.0	0.003
20C	15%	3700.7069	3979.2988	215.0	0.056
	-15%	3700.7069	3979.2988	229.0	0.060
	End Point	3700.7069	3979.2988	225.5	0.059

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9. RADIATED RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §27.50

LIMITS

27.50:

(a)(3) Mobile and portable stations. (i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

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

(c) (10) - Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

(d)(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

(h) The following power limits shall apply in the BRS and EBS:

(2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

(j)(3) Mobile and portable stations are limited to 1 Watt EIRP. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(k)(3) Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

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TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.17; ESU40 setting reference to 971168 D01 v03r01

For radiated output power measurement with a ESU40:

a) Set the RBW ≥ OBW;
b) Set VBW ≥ 3 × RBW;
c) Set span ≥ 2 x RBW;
d) Sweep time = auto couple or 1 second;
e) Detector = rms;
f) Ensure that the number of measurement points ≥ span/RBW;
g) Trace Mode = max hold(WCDMA), average(LTE, 5G NR);

NOTE1

LTE Band 41(PC2) A-MPR is implemented in this EUT when operating on HPUE per the A-MPR specification in 3GPP TS 36.101 (Table 6.2.4-4a). Also only Emission mask test item were performd A-MPR condition.

TEST RESULTS

See the following pages.

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9.1.1. ERP/EIRP Results

WCDMA

Band	Mode	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
Band 4	REL99	1712.40	18.88	H	4.31	9.51	24.08	255.86	33.00	-5.92
		1732.60	18.87	H	4.33	9.60	24.14	259.42	33.00	-5.86
		1752.60	19.00	H	4.36	9.68	24.33	271.02	33.00	-5.67
	HSDPA	1712.40	17.92	H	4.31	9.51	23.12	205.12	33.00	-6.88
		1732.60	17.93	H	4.33	9.60	23.20	208.93	33.00	-6.80
		1752.60	18.25	H	4.36	9.68	23.58	228.03	33.00	-6.42

LTE Band 7 (ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2502.50	19.12	V	5.24	10.00	23.88	244.34	33.00	-9.12	1/12
		2535.00	19.66	V	5.28	9.93	24.32	270.40	33.00	-8.68	1/24
		2567.50	19.99	V	5.31	9.91	24.59	287.74	33.00	-8.41	1/24
	16-QAM	2502.50	18.22	V	5.24	10.00	22.98	198.61	33.00	-10.02	1/24
		2535.00	18.77	V	5.28	9.93	23.43	220.29	33.00	-9.57	1/24
		2567.50	19.26	V	5.31	9.91	23.86	243.22	33.00	-9.14	1/24
10	QPSK	2505.00	19.40	V	5.24	9.99	24.15	260.02	33.00	-8.85	1/25
		2535.00	19.61	V	5.28	9.93	24.27	267.30	33.00	-8.73	1/49
		2565.00	19.90	V	5.31	9.91	24.50	281.84	33.00	-8.50	1/25
	16-QAM	2505.00	18.38	V	5.24	9.99	23.13	205.59	33.00	-9.87	1/49
		2535.00	18.63	V	5.28	9.93	23.29	213.30	33.00	-9.71	1/49
		2565.00	18.97	V	5.31	9.91	23.57	227.51	33.00	-9.43	1/49
15	QPSK	2507.50	19.14	V	5.25	9.99	23.89	244.91	33.00	-9.11	1/37
		2535.00	19.33	V	5.28	9.93	23.99	250.61	33.00	-9.01	1/37
		2562.50	19.63	V	5.30	9.91	24.23	264.85	33.00	-8.77	1/37
	16-QAM	2507.50	18.44	V	5.25	9.99	23.18	207.97	33.00	-9.82	1/37
		2535.00	18.59	V	5.28	9.93	23.25	211.35	33.00	-9.75	1/37
		2562.50	19.03	V	5.30	9.91	23.63	230.67	33.00	-9.37	1/37
20	QPSK	2510.00	19.17	V	5.25	9.98	23.91	246.04	33.00	-9.09	1/0
		2535.00	19.33	V	5.28	9.93	23.99	250.61	33.00	-9.01	1/0
		2560.00	19.62	V	5.30	9.91	24.23	264.85	33.00	-8.77	1/49
	16-QAM	2510.00	18.30	V	5.25	9.98	23.03	200.91	33.00	-9.97	1/49
		2535.00	18.68	V	5.28	9.93	23.34	215.77	33.00	-9.66	1/49
		2560.00	18.88	V	5.30	9.91	23.48	222.84	33.00	-9.52	1/49

LTE Band 7 (ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	2505.00	19.03	V	5.31	9.91	23.63	230.75	33.00	-9.37	1/25
		2535.00	19.10	V	5.31	9.91	23.70	234.33	33.00	-9.30	1/25
		2565.00	19.49	V	5.31	9.91	24.09	256.29	33.00	-8.91	1/25
	16-QAM	2505.00	18.26	V	5.31	9.91	22.86	193.12	33.00	-10.14	1/25
		2535.00	18.19	V	5.31	9.91	22.79	190.12	33.00	-10.21	1/25
		2565.00	18.54	V	5.31	9.91	23.14	206.13	33.00	-9.86	1/1

LTE Band 12 (ANT A+B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	699.70	21.64	H	2.78	-1.35	17.51	56.36	34.77	-17.26	1/3
		707.50	21.82	H	2.79	-1.34	17.70	58.88	34.77	-17.07	1/3
		715.30	21.90	H	2.81	-1.32	17.77	59.84	34.77	-17.00	1/5
	16-QAM	699.70	20.67	H	2.78	-1.35	16.54	45.08	34.77	-18.23	1/0
		707.50	20.57	H	2.79	-1.34	16.45	44.16	34.77	-18.32	1/5
		715.30	20.71	H	2.81	-1.32	16.58	45.50	34.77	-18.19	1/3
3	QPSK	700.50	21.83	H	2.78	-1.35	17.70	58.88	34.77	-17.07	1/8
		707.50	21.39	H	2.79	-1.34	17.27	53.33	34.77	-17.50	1/8
		714.50	21.60	H	2.81	-1.32	17.47	55.85	34.77	-17.30	1/8
	16-QAM	700.50	20.83	H	2.78	-1.35	16.70	46.77	34.77	-18.07	1/8
		707.50	20.25	H	2.79	-1.34	16.13	41.02	34.77	-18.64	1/8
		714.50	20.75	H	2.81	-1.32	16.62	45.92	34.77	-18.15	1/8
5	QPSK	701.50	22.39	H	2.78	-1.35	18.26	66.99	34.77	-16.51	1/12
		707.50	21.55	H	2.79	-1.34	17.43	55.34	34.77	-17.34	1/24
		713.50	21.65	H	2.81	-1.32	17.52	56.49	34.77	-17.25	1/12
	16-QAM	701.50	21.32	H	2.78	-1.35	17.19	52.36	34.77	-17.58	1/12
		707.50	20.30	H	2.79	-1.34	16.18	41.50	34.77	-18.59	1/24
		713.50	20.56	H	2.81	-1.32	16.43	43.95	34.77	-18.34	1/12
10	QPSK	704.00	21.70	H	2.79	-1.34	17.57	57.15	34.77	-17.20	1/25
		707.50	21.47	H	2.79	-1.34	17.35	54.33	34.77	-17.42	1/49
		711.00	21.22	H	2.80	-1.33	17.09	51.17	34.77	-17.68	1/49
	16-QAM	704.00	20.94	H	2.79	-1.34	16.81	47.97	34.77	-17.96	1/0
		707.50	20.27	H	2.79	-1.34	16.15	41.21	34.77	-18.62	1/49
		711.00	20.23	H	2.80	-1.33	16.10	40.74	34.77	-18.67	1/49

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LTE Band 12(ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	699.70	23.21	V	2.78	-1.35	19.08	80.91	34.77	-15.69	1/3
		707.50	23.25	V	2.79	-1.34	19.12	81.66	34.77	-15.65	1/3
		715.30	23.04	V	2.81	-1.32	18.91	77.80	34.77	-15.86	1/5
	16-QAM	699.70	21.87	V	2.78	-1.35	17.74	59.43	34.77	-17.03	1/0
		707.50	22.13	V	2.79	-1.34	18.00	63.10	34.77	-16.77	1/5
		715.30	22.01	V	2.81	-1.32	17.88	61.38	34.77	-16.89	1/3
3	QPSK	700.50	23.33	V	2.78	-1.35	19.20	83.18	34.77	-15.57	1/8
		707.50	23.19	V	2.79	-1.34	19.06	80.54	34.77	-15.71	1/8
		714.50	22.91	V	2.81	-1.32	18.78	75.51	34.77	-15.99	1/8
	16-QAM	700.50	22.32	V	2.78	-1.35	18.19	65.92	34.77	-16.58	1/8
		707.50	21.93	V	2.79	-1.34	17.80	60.26	34.77	-16.97	1/8
		714.50	22.02	V	2.81	-1.32	17.89	61.52	34.77	-16.88	1/8
5	QPSK	701.50	23.12	V	2.78	-1.35	18.99	79.25	34.77	-15.78	1/12
		707.50	23.11	V	2.79	-1.34	18.98	79.07	34.77	-15.79	1/24
		713.50	22.93	V	2.81	-1.32	18.81	76.03	34.77	-15.96	1/12
	16-QAM	701.50	22.28	V	2.78	-1.35	18.15	65.31	34.77	-16.62	1/12
		707.50	22.14	V	2.79	-1.34	18.01	63.24	34.77	-16.76	1/24
		713.50	21.97	V	2.81	-1.32	17.85	60.95	34.77	-16.92	1/12
10	QPSK	704.00	23.39	V	2.79	-1.34	19.26	84.33	34.77	-15.51	1/25
		707.50	23.15	V	2.79	-1.34	19.02	79.80	34.77	-15.75	1/49
		711.00	22.79	V	2.80	-1.33	18.66	73.45	34.77	-16.11	1/49
	16-QAM	704.00	22.24	V	2.79	-1.34	18.11	64.71	34.77	-16.66	1/0
		707.50	21.84	V	2.79	-1.34	17.71	59.02	34.77	-17.06	1/49
		711.00	21.72	V	2.80	-1.33	17.59	57.41	34.77	-17.18	1/49

LTE Band 13(ANT A+B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	779.50	23.90	H	2.93	-1.19	19.78	95.06	34.77	-14.99	1/12
		782.00	23.96	H	2.93	-1.19	19.84	96.38	34.77	-14.93	1/12
		784.50	24.09	H	2.94	-1.18	19.97	99.31	34.77	-14.80	1/12
	16-QAM	779.50	22.83	H	2.93	-1.19	18.71	74.30	34.77	-16.06	1/12
		782.00	22.73	H	2.93	-1.19	18.61	72.61	34.77	-16.16	1/12
		784.50	22.92	H	2.94	-1.18	18.80	75.86	34.77	-15.97	1/12
10	QPSK	782.00	24.03	H	2.93	-1.19	19.91	97.95	34.77	-14.86	1/0
	16-QAM	782.00	23.09	H	2.93	-1.19	18.97	78.89	34.77	-15.80	1/0

LTE Band 13(ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	779.50	23.43	V	2.93	-1.19	19.31	85.31	34.77	-15.46	1/12
		782.00	23.70	V	2.93	-1.19	19.58	90.78	34.77	-15.19	1/12
		784.50	23.75	V	2.94	-1.18	19.63	91.83	34.77	-15.14	1/12
	16-QAM	779.50	22.67	V	2.93	-1.19	18.55	71.61	34.77	-16.22	1/12
		782.00	22.69	V	2.93	-1.19	18.57	71.94	34.77	-16.20	1/12
		784.50	22.53	V	2.94	-1.18	18.41	69.34	34.77	-16.36	1/12
10	QPSK	782.00	23.17	V	2.93	-1.19	19.05	80.35	34.77	-15.72	1/0
	16-QAM	782.00	22.20	V	2.93	-1.19	18.08	64.27	34.77	-16.69	1/0

LTE Band 30(ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2307.50	16.86	H	5.02	9.70	21.54	142.56	24.00	-2.46	1/12
		2310.00	16.48	H	5.03	9.71	21.17	130.92	24.00	-2.83	1/12
		2312.50	15.73	H	5.03	9.73	20.42	110.15	24.00	-3.58	1/12
	16-QAM	2307.50	15.92	H	5.03	9.72	20.61	115.08	24.00	-3.39	1/0
		2310.00	15.55	H	5.03	9.71	20.24	105.68	24.00	-3.76	1/12
		2312.50	14.83	H	5.03	9.71	19.51	89.33	24.00	-4.49	1/12
10	QPSK	2310.00	16.25	H	5.03	9.71	20.94	124.17	24.00	-3.06	1/0
	16-QAM	2310.00	15.41	H	5.03	9.71	20.10	102.33	24.00	-3.90	1/0

LTE Band 30(ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2307.50	17.07	H	5.02	9.70	21.75	149.62	24.00	-2.25	1/12
		2310.00	17.07	H	5.03	9.71	21.76	149.97	24.00	-2.24	1/12
		2312.50	17.31	H	5.03	9.73	22.00	158.49	24.00	-2.00	1/12
	16-QAM	2307.50	16.08	H	5.02	9.70	20.76	119.12	24.00	-3.24	1/0
		2310.00	16.09	H	5.03	9.71	20.78	119.67	24.00	-3.22	1/12
		2312.50	16.10	H	5.03	9.73	20.79	119.95	24.00	-3.21	1/12

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LTE Band 41 (PC2, ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2498.50	18.40	H	5.23	10.00	23.17	207.49	33.00	-9.83	1/12
		2593.00	19.83	H	5.34	9.91	24.41	276.06	33.00	-8.59	1/0
		2687.50	17.91	H	5.44	9.87	22.34	171.40	33.00	-10.66	1/0
	16-QAM	2498.50	17.61	H	5.23	10.00	22.38	172.98	33.00	-10.62	1/12
		2593.00	19.18	H	5.34	9.91	23.76	237.68	33.00	-9.24	1/24
		2687.50	17.12	H	5.44	9.87	21.55	142.89	33.00	-11.45	1/0
10	QPSK	2501.00	17.75	H	5.24	10.00	22.50	177.83	33.00	-10.50	1/25
		2593.00	19.81	H	5.34	9.91	24.39	274.79	33.00	-8.61	1/25
		2685.00	18.04	H	5.43	9.87	22.48	177.01	33.00	-10.52	1/0
	16-QAM	2501.00	16.91	H	5.24	10.00	21.66	146.55	33.00	-11.34	1/25
		2593.00	18.89	H	5.34	9.91	23.47	222.33	33.00	-9.53	1/0
		2685.00	17.33	H	5.43	9.87	21.77	150.31	33.00	-11.23	1/0
15	QPSK	2503.50	19.21	H	5.24	9.99	23.96	248.89	33.00	-9.04	1/0
		2593.00	19.75	H	5.34	9.91	24.32	270.40	33.00	-8.68	1/74
		2682.50	17.68	H	5.43	9.87	22.12	162.93	33.00	-10.88	1/0
	16-QAM	2503.50	18.34	H	5.24	9.99	23.09	203.70	33.00	-9.91	1/0
		2593.00	18.58	H	5.34	9.91	23.16	207.01	33.00	-9.84	1/74
		2682.50	16.31	H	5.43	9.87	20.75	118.85	33.00	-12.25	1/38
20	QPSK	2506.00	18.49	H	5.25	9.99	23.23	210.38	33.00	-9.77	1/49
		2593.00	19.65	H	5.34	9.91	24.23	264.85	33.00	-8.77	1/49
		2680.00	17.68	H	5.43	9.87	22.12	162.93	33.00	-10.88	1/0
	16-QAM	2506.00	17.83	H	5.25	9.99	22.57	180.72	33.00	-10.43	1/49
		2593.00	18.41	H	5.34	9.91	22.98	198.61	33.00	-10.02	1/99
		2680.00	15.94	H	5.43	9.87	20.38	109.14	33.00	-12.62	1/49

LTE Band 41 (PC2, ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
15	QPSK	2503.50	19.69	H	5.24	10.07	24.52	282.85	33.00	-8.48	1/0
		2593.00	20.33	H	5.34	9.97	24.96	313.32	33.00	-8.04	1/74
		2682.50	19.58	H	5.43	10.05	24.20	262.84	33.00	-8.80	1/0
	16-QAM	2503.50	19.15	H	5.24	10.07	23.98	249.78	33.00	-9.02	1/0
		2593.00	19.74	H	5.34	9.97	24.37	273.52	33.00	-8.63	1/74
		2682.50	19.11	H	5.43	10.05	23.73	235.88	33.00	-9.27	1/37

LTE Band 66 (ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
1.4	QPSK	1710.70	17.69	H	4.31	9.50	22.89	194.54	33.00	-7.11	1/5
		1745.00	18.63	H	4.35	9.66	23.94	247.74	33.00	-6.06	1/3
		1779.30	18.47	H	4.39	9.68	23.76	237.68	33.00	-6.24	1/3
	16-QAM	1710.70	16.94	H	4.31	9.50	22.14	163.68	33.00	-7.86	1/3
		1745.00	17.72	H	4.35	9.66	23.03	200.91	33.00	-6.97	1/0
		1779.30	17.90	H	4.39	9.68	23.19	208.45	33.00	-6.81	1/0
3	QPSK	1711.50	17.57	H	4.31	9.51	22.77	189.23	33.00	-7.23	1/0
		1745.00	18.66	H	4.35	9.66	23.97	249.46	33.00	-6.03	1/8
		1778.50	18.58	H	4.39	9.68	23.87	243.78	33.00	-6.13	1/8
	16-QAM	1711.50	17.13	H	4.31	9.51	22.33	171.00	33.00	-7.67	1/8
		1745.00	17.97	H	4.35	9.66	23.28	212.81	33.00	-6.72	1/8
		1778.50	18.08	H	4.39	9.68	23.37	217.27	33.00	-6.63	1/8
5	QPSK	1712.50	17.64	H	4.31	9.51	22.84	192.31	33.00	-7.16	1/0
		1745.00	18.77	H	4.35	9.66	24.08	255.86	33.00	-5.92	1/12
		1777.50	18.36	H	4.39	9.68	23.65	231.74	33.00	-6.35	1/12
	16-QAM	1712.50	16.93	H	4.31	9.51	22.13	163.31	33.00	-7.87	1/0
		1745.00	17.91	H	4.35	9.66	23.22	209.89	33.00	-6.78	1/12
		1777.50	17.86	H	4.39	9.68	23.15	206.54	33.00	-6.85	1/12
10	QPSK	1715.00	17.86	H	4.31	9.52	23.07	202.77	33.00	-6.93	1/25
		1745.00	18.67	H	4.35	9.66	23.98	250.03	33.00	-6.02	1/25
		1775.00	18.39	H	4.38	9.68	23.69	233.88	33.00	-6.31	1/25
	16-QAM	1715.00	17.13	H	4.31	9.52	22.34	171.40	33.00	-7.66	1/0
		1745.00	18.00	H	4.35	9.66	23.31	214.29	33.00	-6.69	1/25
		1775.00	18.07	H	4.38	9.68	23.37	217.27	33.00	-6.63	1/0
15	QPSK	1717.50	18.53	H	4.31	9.53	23.75	237.14	33.00	-6.25	1/74
		1745.00	18.50	H	4.35	9.66	23.81	240.44	33.00	-6.19	1/0
		1772.50	18.71	H	4.38	9.68	24.01	251.77	33.00	-5.99	1/0
	16-QAM	1717.50	17.49	H	4.31	9.53	22.71	186.64	33.00	-7.29	1/74
		1745.00	17.69	H	4.35	9.66	23.00	199.53	33.00	-7.00	1/0
		1772.50	17.88	H	4.38	9.68	23.18	207.97	33.00	-6.82	1/0
20	QPSK	1720.00	17.56	H	4.32	9.55	22.79	190.11	33.00	-7.21	1/0
		1745.00	18.74	H	4.35	9.66	24.05	254.10	33.00	-5.95	1/0
		1770.00	18.21	H	4.38	9.68	23.51	224.39	33.00	-6.49	1/0
	16-QAM	1720.00	17.05	H	4.32	9.55	22.28	169.04	33.00	-7.72	1/0
		1745.00	18.31	H	4.35	9.66	23.62	230.14	33.00	-6.38	1/0
		1770.00	17.60	H	4.38	9.68	22.90	194.98	33.00	-7.10	1/0

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LTE Band 66 (ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	1712.50	17.03	H	4.31	9.51	22.23	167.14	30.00	-7.77	1/12
		1745.00	18.48	H	4.35	9.66	23.79	239.48	30.00	-6.21	1/12
		1777.50	18.33	H	4.39	9.68	23.62	230.27	30.00	-6.38	1/1
	16-QAM	1712.50	16.23	H	4.31	9.51	21.44	139.24	30.00	-8.56	1/24
		1745.00	18.10	H	4.35	9.66	23.42	219.61	30.00	-6.58	1/12
		1777.50	17.71	H	4.39	9.68	23.00	199.63	30.00	-7.00	1/24

LTE Band 71 (ANT A+B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	665.50	21.33	H	2.71	-1.45	17.16	52.00	34.77	-17.61	1/12
		680.50	21.84	H	2.74	-1.41	17.69	58.75	34.77	-17.08	1/12
		695.50	20.90	H	2.77	-1.36	16.76	47.42	34.77	-18.01	1/12
	16-QAM	665.50	20.38	H	2.71	-1.45	16.21	41.78	34.77	-18.56	1/12
		680.50	20.77	H	2.74	-1.41	16.62	45.92	34.77	-18.15	1/12
		695.50	19.73	H	2.77	-1.36	15.59	36.22	34.77	-19.18	1/12
10	QPSK	668.00	21.34	H	2.72	-1.45	17.18	52.24	34.77	-17.59	1/0
		680.50	21.85	H	2.74	-1.41	17.70	58.88	34.77	-17.07	1/25
		693.00	20.52	H	2.77	-1.37	16.39	43.55	34.77	-18.38	1/0
	16-QAM	668.00	20.56	H	2.72	-1.45	16.40	43.65	34.77	-18.37	1/0
		680.50	20.87	H	2.74	-1.41	16.72	46.99	34.77	-18.05	1/0
		693.00	19.56	H	2.77	-1.37	15.43	34.91	34.77	-19.34	1/0
15	QPSK	670.50	21.23	H	2.72	-1.44	17.07	50.93	34.77	-17.70	1/0
		680.50	21.58	H	2.74	-1.41	17.43	55.34	34.77	-17.34	1/37
		690.50	20.35	H	2.76	-1.38	16.21	41.78	34.77	-18.56	1/0
	16-QAM	670.50	20.14	H	2.72	-1.44	15.98	39.63	34.77	-18.79	1/37
		680.50	20.65	H	2.74	-1.41	16.50	44.67	34.77	-18.27	1/37
		690.50	19.15	H	2.76	-1.38	15.01	31.70	34.77	-19.76	1/0
20	QPSK	673.00	21.49	H	2.73	-1.43	17.33	54.08	34.77	-17.44	1/0
		680.50	21.47	H	2.74	-1.41	17.32	53.95	34.77	-17.45	1/49
		688.00	20.59	H	2.76	-1.39	16.45	44.16	34.77	-18.32	1/0
	16-QAM	673.00	20.48	H	2.73	-1.43	16.32	42.85	34.77	-18.45	1/0
		680.50	20.63	H	2.74	-1.41	16.48	44.46	34.77	-18.29	1/49
		688.00	19.68	H	2.76	-1.39	15.54	35.81	34.77	-19.23	1/0

LTE Band 71 (ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	665.50	20.83	V	2.71	-1.45	16.66	46.34	34.77	-18.11	1/12
		680.50	22.87	V	2.74	-1.41	18.72	74.47	34.77	-16.05	1/12
		695.50	22.88	V	2.77	-1.36	18.75	74.99	34.77	-16.02	1/12
	16-QAM	665.50	19.67	V	2.71	-1.45	15.50	35.48	34.77	-19.27	1/12
		680.50	21.70	V	2.74	-1.41	17.55	56.89	34.77	-17.22	1/12
		695.50	21.79	V	2.77	-1.36	17.66	58.34	34.77	-17.11	1/12
10	QPSK	668.00	21.29	V	2.72	-1.45	17.13	51.64	34.77	-17.64	1/0
		680.50	22.78	V	2.74	-1.41	18.63	72.95	34.77	-16.14	1/25
		693.00	22.86	V	2.77	-1.37	18.72	74.47	34.77	-16.05	1/0
	16-QAM	668.00	20.16	V	2.72	-1.45	16.00	39.81	34.77	-18.77	1/0
		680.50	21.66	V	2.74	-1.41	17.51	56.36	34.77	-17.26	1/0
		693.00	21.86	V	2.77	-1.37	17.72	59.16	34.77	-17.05	1/0
15	QPSK	670.50	20.93	V	2.72	-1.44	16.77	47.53	34.77	-18.00	1/0
		680.50	22.34	V	2.74	-1.41	18.19	65.92	34.77	-16.58	1/37
		690.50	22.19	V	2.76	-1.38	18.04	63.68	34.77	-16.73	1/0
	16-QAM	670.50	19.95	V	2.72	-1.44	15.79	37.93	34.77	-18.98	1/37
		680.50	21.70	V	2.74	-1.41	17.55	56.89	34.77	-17.22	1/37
		690.50	21.13	V	2.76	-1.38	16.98	49.89	34.77	-17.79	1/0
20	QPSK	673.00	21.11	V	2.73	-1.43	16.95	49.55	34.77	-17.82	1/0
		680.50	22.36	V	2.74	-1.41	18.21	66.22	34.77	-16.56	1/49
		688.00	21.59	V	2.76	-1.39	17.45	55.59	34.77	-17.32	1/0
	16-QAM	673.00	20.66	V	2.73	-1.43	16.50	44.67	34.77	-18.27	1/0
		680.50	21.70	V	2.74	-1.41	17.55	56.89	34.77	-17.22	1/49
		688.00	20.59	V	2.76	-1.39	16.45	44.16	34.77	-18.32	1/0

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5G NR n7 (ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2502.50	17.40	V	5.24	10.00	22.15	164.06	33.00	-10.85	1/23
		2535.00	17.45	V	5.28	9.93	22.11	162.55	33.00	-10.89	1/13
		2567.50	17.41	V	5.31	9.91	22.01	158.85	33.00	-10.99	1/1
	16-QAM	2502.50	16.44	V	5.24	10.00	21.19	131.52	33.00	-11.81	1/23
		2535.00	16.54	V	5.28	9.93	21.20	131.83	33.00	-11.80	1/13
		2567.50	16.34	V	5.31	9.91	20.94	124.17	33.00	-12.06	1/1
10	QPSK	2505.00	17.89	V	5.24	9.99	22.64	183.65	33.00	-10.36	1/26
		2535.00	17.46	V	5.28	9.93	22.12	162.93	33.00	-10.88	1/50
		2565.00	17.78	V	5.31	9.91	22.38	172.98	33.00	-10.62	1/26
	16-QAM	2505.00	16.85	V	5.24	9.99	21.60	144.54	33.00	-11.40	1/26
		2535.00	16.51	V	5.28	9.93	21.17	130.92	33.00	-11.83	1/50
		2565.00	16.77	V	5.31	9.91	21.37	137.09	33.00	-11.63	1/26
15	QPSK	2507.50	17.49	V	5.25	9.99	22.24	167.49	33.00	-10.76	1/1
		2535.00	17.54	V	5.28	9.93	22.20	165.96	33.00	-10.80	1/77
		2562.50	17.80	V	5.30	9.91	22.41	174.18	33.00	-10.59	1/40
	16-QAM	2507.50	16.64	V	5.25	9.99	21.39	137.72	33.00	-11.61	1/1
		2535.00	16.60	V	5.28	9.93	21.26	133.66	33.00	-11.74	1/77
		2562.50	16.85	V	5.30	9.91	21.46	139.96	33.00	-11.54	1/40
20	QPSK	2510.00	17.85	V	5.25	9.98	22.59	181.55	33.00	-10.41	1/1
		2535.00	17.53	V	5.28	9.93	22.19	165.58	33.00	-10.81	1/104
		2560.00	17.72	V	5.30	9.91	22.33	171.00	33.00	-10.67	1/53
	16-QAM	2510.00	16.96	V	5.25	9.98	21.70	147.91	33.00	-11.30	1/1
		2535.00	15.49	V	5.28	9.93	20.15	103.51	33.00	-12.85	1/104
		2560.00	16.71	V	5.30	9.91	21.32	135.52	33.00	-11.68	1/53
25	QPSK	2512.50	18.02	V	5.26	9.98	22.74	187.93	33.00	-10.26	1/67
		2535.00	17.87	V	5.28	9.93	22.53	179.06	33.00	-10.47	1/1
		2557.50	18.03	V	5.30	9.91	22.63	183.23	33.00	-10.37	1/1
	16-QAM	2512.50	17.03	V	5.26	9.98	21.75	149.62	33.00	-11.25	1/67
		2535.00	16.91	V	5.28	9.93	21.57	143.55	33.00	-11.43	1/1
		2557.50	17.16	V	5.30	9.91	21.76	149.97	33.00	-11.24	1/1
30	QPSK	2515.00	16.75	V	5.26	9.97	21.46	139.96	33.00	-11.54	1/1
		2535.00	18.14	V	5.28	9.93	22.80	190.55	33.00	-10.20	1/1
		2555.00	18.21	V	5.30	9.91	22.81	190.99	33.00	-10.19	1/1
	16-QAM	2515.00	15.85	V	5.26	9.97	20.56	113.76	33.00	-12.44	1/1
		2535.00	17.21	V	5.28	9.93	21.87	153.82	33.00	-11.13	1/1
		2555.00	17.37	V	5.30	9.91	21.97	157.40	33.00	-11.03	1/1
40	QPSK	2520.00	17.71	V	5.26	9.96	22.41	174.18	33.00	-10.59	1/108
		2535.00	17.56	V	5.28	9.93	22.22	166.72	33.00	-10.78	1/214
		2550.00	17.95	V	5.29	9.91	22.56	180.30	33.00	-10.44	1/1
	16-QAM	2520.00	16.81	V	5.26	9.96	21.51	141.58	33.00	-11.49	1/108
		2535.00	16.67	V	5.28	9.93	21.33	135.83	33.00	-11.67	1/214
		2550.00	16.88	V	5.29	9.91	21.49	140.93	33.00	-11.51	1/1

5G NR n7 (ANT F)

BW	Modulation	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	EIRP	Limit	Delta	RB
40	QPSK	2520.00	15.94	V	5.26	9.96	20.64	115.81	33.00	-12.36	1/108
		2535.00	17.35	V	5.28	9.93	22.01	158.83	33.00	-10.99	1/214
		2550.00	16.66	V	5.29	9.91	21.28	134.25	33.00	-11.72	1/1
	16-QAM	2520.00	15.08	V	5.26	9.96	19.78	95.01	33.00	-13.22	1/108
		2535.00	16.17	V	5.28	9.93	20.83	121.04	33.00	-12.17	1/214
		2550.00	15.63	V	5.29	9.91	20.25	105.90	33.00	-12.75	1/1

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5G NR n12 (ANT A+B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	701.50	20.91	H	2.78	-1.35	16.78	47.64	33.00	-17.99	1/13
		707.50	21.62	H	2.79	-1.34	17.49	56.10	33.00	-17.28	1/13
		713.50	21.54	H	2.81	-1.32	17.41	55.08	33.00	-17.36	1/1
	16-QAM	701.50	19.65	H	2.78	-1.35	15.52	35.65	33.00	-19.25	1/13
		707.50	20.71	H	2.79	-1.34	16.58	45.50	33.00	-18.19	1/13
		713.50	20.70	H	2.81	-1.32	16.57	45.39	33.00	-18.20	1/1
10	QPSK	704.00	21.28	H	2.79	-1.34	17.16	52.00	33.00	-17.61	1/26
		707.50	21.63	H	2.79	-1.34	17.50	56.23	33.00	-17.27	1/1
		711.00	21.72	H	2.80	-1.33	17.59	57.41	33.00	-17.18	1/1
	16-QAM	704.00	20.28	H	2.79	-1.34	16.16	41.30	33.00	-18.61	1/26
		707.50	20.51	H	2.79	-1.34	16.38	43.45	33.00	-18.39	1/1
		711.00	20.61	H	2.80	-1.33	16.48	44.46	33.00	-18.29	1/1
15	QPSK	706.50	21.61	H	2.79	-1.34	17.48	55.98	33.00	-17.29	1/40
		707.50	21.79	H	2.79	-1.34	17.66	58.34	33.00	-17.11	1/1
		708.50	21.59	H	2.80	-1.33	17.46	55.72	33.00	-17.31	1/1
	16-QAM	706.50	20.80	H	2.79	-1.34	16.67	46.45	33.00	-18.10	1/40
		707.50	20.57	H	2.79	-1.34	16.44	44.06	33.00	-18.33	1/1
		708.50	20.78	H	2.80	-1.33	16.65	46.24	33.00	-18.12	1/1

5G NR n12 (ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	701.50	22.57	V	2.78	-1.35	18.44	69.82	33.00	-16.33	1/13
		707.50	22.91	V	2.79	-1.34	18.78	75.51	33.00	-15.99	1/13
		713.50	22.66	V	2.81	-1.32	18.54	71.45	33.00	-16.23	1/1
	16-QAM	701.50	21.42	V	2.78	-1.35	17.29	53.58	33.00	-17.48	1/13
		707.50	21.67	V	2.79	-1.34	17.53	56.62	33.00	-17.23	1/13
		713.50	21.52	V	2.81	-1.32	17.40	54.95	33.00	-17.37	1/1
10	QPSK	704.00	23.08	V	2.79	-1.34	18.95	78.52	33.00	-15.82	1/26
		707.50	22.66	V	2.79	-1.34	18.53	71.29	33.00	-16.24	1/1
		711.00	22.89	V	2.80	-1.33	18.76	75.16	33.00	-16.01	1/1
	16-QAM	704.00	22.20	V	2.79	-1.34	18.07	64.12	33.00	-16.70	1/26
		707.50	21.51	V	2.79	-1.34	17.38	54.70	33.00	-17.39	1/1
		711.00	21.64	V	2.80	-1.33	17.51	56.36	33.00	-17.26	1/1
15	QPSK	706.50	22.27	V	2.79	-1.34	18.14	65.16	33.00	-16.63	1/40
		707.50	23.15	V	2.79	-1.34	19.02	79.80	33.00	-15.75	1/1
		708.50	22.23	V	2.80	-1.33	18.11	64.71	33.00	-16.66	1/1
	16-QAM	706.50	21.07	V	2.79	-1.34	16.94	49.43	33.00	-17.83	1/40
		707.50	21.98	V	2.79	-1.34	17.85	60.95	33.00	-16.92	1/1
		708.50	20.96	V	2.80	-1.33	16.84	48.31	33.00	-17.93	1/1

5G NR n30 (ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	2307.50	16.05	H	5.02	9.70	20.73	118.30	24.00	-3.27	1/23
		2310.00	15.70	H	5.03	9.71	20.39	109.40	24.00	-3.61	1/1
		2312.50	15.63	H	5.03	9.73	20.32	107.65	24.00	-3.68	1/1
	16-QAM	2311.10	15.11	H	5.03	9.72	19.80	95.50	24.00	-4.20	1/23
		2310.00	14.77	H	5.03	9.71	19.46	88.31	24.00	-4.54	1/1
		2308.90	14.76	H	5.03	9.71	19.44	87.90	24.00	-4.56	1/1
10	QPSK	2310.00	16.36	H	5.03	9.71	21.05	127.35	24.00	-2.95	1/26
	16QAM	2310.00	15.18	H	5.03	9.71	19.87	97.05	24.00	-4.13	1/26

5G NR n30 (ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	2310.00	15.34	H	5.03	9.76	20.07	101.62	24.00	-3.93	1/26
	16QAM	2310.00	14.33	H	5.03	9.76	19.06	80.54	24.00	-4.94	1/26

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5G NR n41(PC2, ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	2501.01	18.66	H	5.24	10.07	23.49	223.36	33.00	-9.51	1/22
		2592.99	18.14	H	5.34	9.97	22.77	189.23	33.00	-10.23	1/22
		2685.00	19.23	H	5.43	10.05	23.85	242.66	33.00	-9.15	1/1
	16-QAM	2501.01	17.99	H	5.24	10.07	22.82	191.43	33.00	-10.18	1/22
		2592.99	17.30	H	5.34	9.97	21.93	155.96	33.00	-11.07	1/22
		2685.00	18.76	H	5.43	10.05	23.38	217.77	33.00	-9.62	1/1
15	QPSK	2503.50	18.42	H	5.24	10.07	23.25	211.35	33.00	-9.75	1/36
		2592.99	18.34	H	5.34	9.97	22.97	198.15	33.00	-10.03	1/36
		2682.48	19.02	H	5.43	10.05	23.64	231.21	33.00	-9.36	1/1
	16-QAM	2503.50	17.53	H	5.24	10.07	22.36	172.19	33.00	-10.64	1/36
		2592.99	17.80	H	5.34	9.97	22.43	174.98	33.00	-10.57	1/36
		2682.48	18.40	H	5.43	10.05	23.02	200.45	33.00	-9.98	1/1
20	QPSK	2506.02	17.88	H	5.25	10.07	22.70	186.21	33.00	-10.30	1/49
		2592.99	18.53	H	5.34	9.97	23.16	207.01	33.00	-9.84	1/1
		2679.99	19.08	H	5.43	10.04	23.69	233.88	33.00	-9.31	1/1
	16-QAM	2506.02	17.33	H	5.25	10.07	22.15	164.06	33.00	-10.85	1/49
		2592.99	18.14	H	5.34	9.97	22.77	189.23	33.00	-10.23	1/1
		2679.99	18.35	H	5.43	10.04	22.96	197.70	33.00	-10.04	1/1
30	QPSK	2511.00	18.11	H	5.25	10.06	22.92	195.88	33.00	-10.08	1/76
		2592.99	18.55	H	5.34	9.97	23.18	207.97	33.00	-9.82	1/76
		2675.00	19.40	H	5.43	10.03	24.00	251.19	33.00	-9.00	1/1
	16-QAM	2511.00	17.50	H	5.25	10.06	22.31	170.22	33.00	-10.69	1/76
		2592.99	18.01	H	5.34	9.97	22.64	183.65	33.00	-10.36	1/76
		2675.00	18.81	H	5.43	10.03	23.41	219.28	33.00	-9.59	1/1
40	QPSK	2516.01	18.23	H	5.26	10.06	23.03	200.91	33.00	-9.97	1/1
		2592.99	18.19	H	5.34	9.97	22.82	191.43	33.00	-10.18	1/104
		2670.00	18.65	H	5.43	10.02	23.24	210.86	33.00	-9.76	1/1
	16-QAM	2516.01	17.58	H	5.26	10.06	22.38	172.98	33.00	-10.62	1/1
		2592.99	17.45	H	5.34	9.97	22.08	161.44	33.00	-10.92	1/104
		2670.00	17.97	H	5.43	10.02	22.56	180.30	33.00	-10.44	1/1
50	QPSK	2521.01	17.75	H	5.26	10.05	22.54	179.47	33.00	-10.46	1/1
		2592.99	17.38	H	5.34	9.97	22.01	158.85	33.00	-10.99	1/131
		2665.00	17.38	H	5.42	10.01	21.97	157.40	33.00	-11.03	1/1
	16-QAM	2521.01	18.39	H	5.26	10.05	23.18	207.97	33.00	-9.82	1/1
		2592.99	18.30	H	5.34	9.97	22.93	196.34	33.00	-10.07	1/131
		2665.00	18.20	H	5.42	10.01	22.79	190.11	33.00	-10.21	1/1
60	QPSK	2526.00	18.63	H	5.27	10.05	23.41	219.28	33.00	-9.59	1/1
		2592.99	18.72	H	5.34	9.97	23.35	216.27	33.00	-9.65	1/160
		2659.98	17.93	H	5.41	10.00	22.52	178.65	33.00	-10.48	1/1
	16-QAM	2526.00	18.11	H	5.27	10.05	22.89	194.54	33.00	-10.11	1/1
		2592.99	17.97	H	5.34	9.97	22.60	181.97	33.00	-10.40	1/160
		2659.98	17.42	H	5.41	10.00	22.01	158.85	33.00	-10.99	1/1
70	QPSK	2531.02	18.45	H	5.28	10.04	23.22	209.89	33.00	-9.78	1/1
		2593.99	17.42	H	5.34	9.97	22.05	160.32	33.00	-10.95	1/187
		2644.98	17.24	H	5.41	9.99	21.82	152.05	33.00	-11.18	1/1
	16-QAM	2531.02	16.49	H	5.28	10.04	21.26	133.66	33.00	-11.74	1/1
		2593.99	16.83	H	5.34	9.97	21.46	139.96	33.00	-11.54	1/187
		2644.98	16.58	H	5.41	9.99	21.16	130.62	33.00	-11.84	1/1
80	QPSK	2536.02	17.67	H	5.28	10.04	22.42	174.58	33.00	-10.58	1/215
		2592.99	18.04	H	5.34	9.97	22.67	184.93	33.00	-10.33	1/215
		2649.99	17.38	H	5.41	9.99	21.96	157.04	33.00	-11.04	1/1
	16-QAM	2536.02	16.87	H	5.28	10.04	21.62	145.21	33.00	-11.38	1/215
		2592.99	17.45	H	5.34	9.97	22.08	161.44	33.00	-10.92	1/215
		2649.99	16.50	H	5.41	9.99	21.08	128.23	33.00	-11.92	1/1
90	QPSK	2541.00	18.35	H	5.28	10.03	23.09	203.70	33.00	-9.91	1/1
		2592.99	18.02	H	5.34	9.97	22.65	184.08	33.00	-10.35	1/243
		2644.98	18.24	H	5.40	9.98	22.82	191.43	33.00	-10.18	1/1
	16-QAM	2541.00	17.83	H	5.28	10.03	22.57	180.72	33.00	-10.43	1/1
		2592.99	17.32	H	5.34	9.97	21.95	156.68	33.00	-11.05	1/243
		2644.98	17.56	H	5.40	9.98	22.14	163.68	33.00	-10.86	1/1
100	QPSK	2546.01	17.18	H	5.29	10.02	21.92	155.60	33.00	-11.08	1/271
		2592.99	18.70	H	5.34	9.97	23.33	215.28	33.00	-9.67	1/1
		2640.00	18.23	H	5.39	9.98	22.82	191.43	33.00	-10.18	1/1
	16-QAM	2546.01	16.40	H	5.29	10.02	21.14	130.02	33.00	-11.86	1/271
		2592.99	18.18	H	5.34	9.97	22.81	190.99	33.00	-10.19	1/1
		2640.00	17.82	H	5.39	9.98	22.41	174.18	33.00	-10.59	1/1

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5G NR n41(PC2, ANT F, SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
40	2516.01	12.73	H	5.26	9.97	17.44	55.46	33.00	-15.56
	2592.99	15.46	H	5.34	9.91	20.04	100.93	33.00	-12.96
	2670.00	11.86	H	5.43	9.87	16.31	42.76	33.00	-16.69

5G NR n41(PC2, ANT C, SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
10	2501.01	7.50	H	5.24	10.00	12.26	16.83	33.00	-20.74
	2592.99	9.84	H	5.34	9.91	14.41	27.61	33.00	-18.59
	2685.00	6.90	H	5.43	9.87	11.34	13.61	33.00	-21.66

5G NR n41(PC2, ANT H, SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
30	2511.00	7.69	V	5.25	9.98	12.41	17.42	33.00	-20.59
	2592.99	7.34	V	5.34	9.91	11.92	15.56	33.00	-21.08
	2675.00	7.45	V	5.43	9.87	11.90	15.49	33.00	-21.10

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5G NR n41(PC2, ANT F) Upper

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	2501.01	19.02	H	5.24	10.07	23.85	242.66	33.00	-9.15	1/22
		2592.99	19.88	H	5.34	9.97	24.51	282.49	33.00	-8.49	1/22
		2685.00	20.53	V	5.43	10.05	25.15	327.34	33.00	-7.85	1/1
	16-QAM	2501.01	18.41	H	5.24	10.07	23.24	210.86	33.00	-9.76	1/22
		2592.99	19.33	H	5.34	9.97	23.96	248.89	33.00	-9.04	1/22
		2685.00	19.92	V	5.43	10.05	24.54	284.45	33.00	-8.46	1/1
15	QPSK	2503.50	19.10	H	5.24	10.07	23.93	247.17	33.00	-9.07	1/36
		2592.99	19.77	V	5.34	9.97	24.40	275.42	33.00	-8.60	1/36
		2682.48	20.33	V	5.43	10.05	24.95	312.61	33.00	-8.05	1/1
	16-QAM	2503.50	17.77	H	5.24	10.07	22.60	181.97	33.00	-10.40	1/36
		2592.99	19.23	V	5.34	9.97	23.86	243.22	33.00	-9.14	1/36
		2682.48	19.75	V	5.43	10.05	24.37	273.53	33.00	-8.63	1/1
20	QPSK	2506.02	19.22	H	5.25	10.07	24.04	253.51	33.00	-8.96	1/49
		2592.99	19.77	H	5.34	9.97	24.40	275.42	33.00	-8.60	1/49
		2679.99	20.31	V	5.43	10.04	24.92	310.46	33.00	-8.08	1/49
	16-QAM	2506.02	18.61	H	5.25	10.07	23.43	220.29	33.00	-9.57	1/49
		2592.99	19.19	H	5.34	9.97	23.82	240.99	33.00	-9.18	1/49
		2679.99	19.69	H	5.43	10.04	24.30	269.15	33.00	-8.70	1/49
30	QPSK	2511.00	20.21	H	5.25	10.06	25.02	317.69	33.00	-7.98	1/76
		2592.99	19.97	H	5.34	9.97	24.60	288.40	33.00	-8.40	1/76
		2675.00	19.71	H	5.43	10.03	24.31	269.77	33.00	-8.69	1/76
	16-QAM	2511.00	19.51	H	5.25	10.06	24.32	270.40	33.00	-8.68	1/76
		2592.99	19.50	H	5.34	9.97	24.13	258.82	33.00	-8.87	1/76
		2675.00	19.38	V	5.43	10.03	23.99	250.61	33.00	-9.01	1/76
40	QPSK	2516.01	19.05	H	5.26	10.06	23.85	242.66	33.00	-9.15	1/104
		2592.99	19.68	H	5.34	9.97	24.31	269.77	33.00	-8.69	1/104
		2670.00	20.43	V	5.43	10.02	25.02	317.69	33.00	-7.98	1/1
	16-QAM	2516.01	18.33	H	5.26	10.06	23.13	205.59	33.00	-9.87	1/104
		2592.99	19.06	H	5.34	9.97	23.69	233.88	33.00	-9.31	1/104
		2670.00	19.79	V	5.43	10.02	24.38	274.16	33.00	-8.62	1/1
50	QPSK	2521.01	20.08	H	5.26	10.05	24.87	306.90	33.00	-8.13	1/67
		2592.99	19.81	V	5.34	9.97	24.44	277.97	33.00	-8.56	1/131
		2665.00	20.23	V	5.42	10.01	24.82	303.39	33.00	-8.18	1/1
	16-QAM	2521.01	19.58	H	5.26	10.05	24.37	273.53	33.00	-8.63	1/67
		2592.99	19.16	V	5.34	9.97	23.79	239.33	33.00	-9.21	1/131
		2665.00	19.45	V	5.42	10.01	24.04	253.51	33.00	-8.96	1/1
60	QPSK	2526.00	19.68	H	5.27	10.05	24.46	279.25	33.00	-8.54	1/81
		2592.99	19.60	V	5.34	9.97	24.23	264.85	33.00	-8.77	1/160
		2659.98	20.16	V	5.41	10.00	24.75	298.54	33.00	-8.25	1/1
	16-QAM	2526.00	18.98	H	5.27	10.05	23.76	237.68	33.00	-9.24	1/81
		2592.99	18.88	V	5.34	9.97	23.51	224.39	33.00	-9.49	1/160
		2659.98	19.78	V	5.41	10.00	24.37	273.53	33.00	-8.63	1/1
70	QPSK	2531.02	19.13	H	5.28	10.04	23.90	245.47	33.00	-9.10	1/1
		2593.99	19.25	V	5.34	9.97	23.88	244.34	33.00	-9.12	1/187
		2644.98	20.28	V	5.41	9.99	24.87	306.90	33.00	-8.13	1/95
	16-QAM	2531.02	18.60	H	5.28	10.04	23.37	217.27	33.00	-9.63	1/1
		2593.99	18.57	H	5.34	9.97	23.20	208.93	33.00	-9.80	1/187
		2644.98	19.92	V	5.41	9.99	24.51	282.49	33.00	-8.49	1/95
80	QPSK	2536.02	19.07	H	5.28	10.04	23.82	240.99	33.00	-9.18	1/1
		2592.99	19.39	V	5.34	9.97	24.02	252.35	33.00	-8.98	1/215
		2649.99	19.57	V	5.41	9.99	24.14	259.42	33.00	-8.86	1/1
	16-QAM	2536.02	18.62	H	5.28	10.04	23.37	217.27	33.00	-9.63	1/1
		2592.99	18.96	V	5.34	9.97	23.59	228.56	33.00	-9.41	1/215
		2649.99	19.00	V	5.41	9.99	23.57	227.51	33.00	-9.43	1/1
90	QPSK	2541.00	20.13	H	5.28	10.03	24.87	306.90	33.00	-8.13	1/123
		2592.99	18.96	V	5.34	9.97	23.59	228.56	33.00	-9.41	1/243
		2644.98	20.53	V	5.40	9.98	25.11	324.34	33.00	-7.89	1/123
	16-QAM	2541.00	19.54	H	5.28	10.03	24.28	267.92	33.00	-8.72	1/123
		2592.99	18.56	V	5.34	9.97	23.19	208.45	33.00	-9.81	1/243
		2644.98	20.25	V	5.40	9.98	24.83	304.09	33.00	-8.17	1/123
100	QPSK	2546.01	19.44	H	5.29	10.02	24.18	261.82	33.00	-8.82	1/137
		2592.99	19.61	V	5.34	9.97	24.24	265.46	33.00	-8.76	1/271
		2640.00	20.17	V	5.39	9.98	24.76	299.23	33.00	-8.24	1/137
	16-QAM	2546.01	18.61	H	5.29	10.02	23.35	216.27	33.00	-9.65	1/137
		2592.99	19.12	V	5.34	9.97	23.75	237.14	33.00	-9.25	1/271
		2640.00	19.48	V	5.39	9.98	24.07	255.27	33.00	-8.93	1/1

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5G NR n41(PC2, ANT B, SRS1) Upper

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
15	2503.50	13.54	H	5.24	9.99	18.29	67.45	33.00	-14.71
	2592.99	15.69	H	5.34	9.91	20.27	106.41	33.00	-12.73
	2682.48	13.52	H	5.43	9.87	17.97	62.66	33.00	-15.03

5G NR n41(PC2, ANT C, SRS2) Upper

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
30	2511.00	6.26	V	5.25	10.06	11.06	12.76	33.00	-21.94
	2592.99	8.00	V	5.34	9.97	12.63	18.32	33.00	-20.37
	2675.00	8.56	V	5.43	10.03	13.17	20.75	33.00	-19.83

5G NR n41(PC2, ANT H, SRS3) Upper

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
80	2536.02	7.20	H	5.28	9.93	11.86	15.35	33.00	-21.14
	2592.99	7.88	H	5.34	9.91	12.45	17.58	33.00	-20.55
	2649.99	7.09	H	5.41	9.87	11.55	14.29	33.00	-21.45

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5G NR n66 (ANT B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	1712.50	17.86	H	4.31	9.51	23.06	202.30	30.00	-6.94	1/23
		1745.00	16.85	H	4.35	9.66	22.16	164.44	30.00	-7.84	1/1
		1777.50	17.13	H	4.39	9.68	22.42	174.58	30.00	-7.58	1/1
	16-QAM	1712.50	17.00	H	4.31	9.51	22.20	165.96	30.00	-7.80	1/23
		1745.00	15.85	H	4.35	9.66	21.16	130.62	30.00	-8.84	1/1
		1777.50	16.18	H	4.39	9.68	21.48	140.60	30.00	-8.52	1/1
10	QPSK	1715.00	17.42	H	4.31	9.52	22.63	183.23	30.00	-7.37	1/26
		1745.00	17.79	H	4.35	9.66	23.10	204.17	30.00	-6.90	1/26
		1775.00	18.19	H	4.38	9.68	23.49	223.36	30.00	-6.51	1/1
	16-QAM	1715.00	16.70	H	4.31	9.52	21.91	155.24	30.00	-8.09	1/26
		1745.00	17.01	H	4.35	9.66	22.32	170.61	30.00	-7.68	1/26
		1775.00	17.42	H	4.38	9.68	22.72	187.07	30.00	-7.28	1/1
15	QPSK	1717.50	17.09	H	4.31	9.53	22.31	170.22	30.00	-7.69	1/77
		1745.00	17.41	H	4.35	9.66	22.72	187.07	30.00	-7.28	1/77
		1772.50	17.32	H	4.38	9.68	22.62	182.81	30.00	-7.38	1/40
	16-QAM	1717.50	16.03	H	4.31	9.53	21.25	133.35	30.00	-8.75	1/77
		1745.00	16.76	H	4.35	9.66	22.07	161.06	30.00	-7.93	1/77
		1772.50	16.17	H	4.38	9.68	21.47	140.28	30.00	-8.53	1/40
20	QPSK	1720.00	16.58	H	4.32	9.55	21.81	151.71	30.00	-8.19	1/104
		1745.00	17.79	H	4.35	9.66	23.10	204.17	30.00	-6.90	1/104
		1770.00	17.40	H	4.38	9.68	22.71	186.64	30.00	-7.29	1/104
	16-QAM	1720.00	15.42	H	4.32	9.55	20.65	116.14	30.00	-9.35	1/104
		1745.00	16.88	H	4.35	9.66	22.19	165.58	30.00	-7.81	1/104
		1770.00	16.38	H	4.38	9.68	21.68	147.23	30.00	-8.32	1/104
25	QPSK	1722.50	16.57	H	4.32	9.56	21.80	151.36	30.00	-8.20	1/131
		1745.00	17.33	H	4.35	9.66	22.65	184.08	30.00	-7.35	1/131
		1767.50	16.70	H	4.38	9.68	22.01	158.85	30.00	-7.99	1/131
	16-QAM	1722.50	15.43	H	4.32	9.56	20.67	116.68	30.00	-9.33	1/131
		1745.00	16.44	H	4.35	9.66	21.76	149.97	30.00	-8.24	1/131
		1767.50	15.68	H	4.38	9.68	20.98	125.31	30.00	-9.02	1/131
30	QPSK	1725.00	16.87	H	4.32	9.57	22.11	162.55	30.00	-7.89	1/80
		1745.00	17.97	H	4.35	9.66	23.28	212.81	30.00	-6.72	1/158
		1765.00	16.64	H	4.37	9.68	21.95	156.68	30.00	-8.05	1/158
	16-QAM	1725.00	15.96	H	4.32	9.57	21.21	132.13	30.00	-8.79	1/80
		1745.00	17.15	H	4.35	9.66	22.46	176.20	30.00	-7.54	1/158
		1765.00	15.63	H	4.37	9.68	20.94	124.17	30.00	-9.06	1/158
40	QPSK	1730.00	17.09	H	4.33	9.59	22.36	172.19	30.00	-7.64	1/214
		1745.00	17.60	H	4.35	9.66	22.92	195.88	30.00	-7.08	1/214
		1760.00	16.29	H	4.37	9.68	21.61	144.88	30.00	-8.39	1/214
	16-QAM	1730.00	16.10	H	4.33	9.59	21.36	136.77	30.00	-8.64	1/214
		1745.00	16.33	H	4.35	9.66	21.64	145.88	30.00	-8.36	1/214
		1760.00	15.36	H	4.37	9.68	20.67	116.68	30.00	-9.33	1/214

5G NR n66 (ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
25	QPSK	1722.50	16.87	H	4.32	9.56	22.11	162.55	30.00	-7.89	1/131
		1745.00	17.09	H	4.35	9.66	22.40	173.78	30.00	-7.60	1/131
		1767.50	15.64	H	4.38	9.68	20.95	124.45	30.00	-9.05	1/131
	16-QAM	1722.50	15.94	H	4.32	9.56	21.18	131.22	30.00	-8.82	1/131
		1745.00	16.22	H	4.35	9.66	21.53	142.23	30.00	-8.47	1/131
		1767.50	14.98	H	4.38	9.68	20.28	106.66	30.00	-9.72	1/131

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5G NR n71(ANT A+B)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	665.50	19.97	H	2.71	-1.45	15.80	38.02	34.77	-18.97	1/1
		680.50	21.24	H	2.74	-1.41	17.09	51.17	34.77	-17.68	1/13
		695.50	20.97	H	2.77	-1.36	16.83	48.19	34.77	-17.94	1/13
	16-QAM	665.50	19.01	H	2.71	-1.45	14.84	30.48	34.77	-19.93	1/1
		680.50	20.50	H	2.74	-1.41	16.35	43.15	34.77	-18.42	1/13
		695.50	19.90	H	2.77	-1.36	15.76	37.67	34.77	-19.01	1/13
10	QPSK	668.00	20.31	H	2.72	-1.45	16.15	41.21	34.77	-18.62	1/1
		680.50	21.09	H	2.74	-1.41	16.94	49.43	34.77	-17.83	1/1
		693.00	21.01	H	2.77	-1.37	16.88	48.75	34.77	-17.89	1/1
	16-QAM	668.00	19.40	H	2.72	-1.45	15.24	33.43	34.77	-19.53	1/1
		680.50	20.12	H	2.74	-1.41	15.97	39.54	34.77	-18.80	1/1
		693.00	20.08	H	2.77	-1.37	15.95	39.36	34.77	-18.82	1/1
15	QPSK	670.50	20.77	H	2.72	-1.44	16.61	45.81	34.77	-18.16	1/1
		680.50	21.33	H	2.74	-1.41	17.18	52.24	34.77	-17.59	1/1
		690.50	20.77	H	2.76	-1.38	16.63	46.03	34.77	-18.14	1/1
	16-QAM	670.50	19.79	H	2.72	-1.44	15.63	36.56	34.77	-19.14	1/1
		680.50	20.34	H	2.74	-1.41	16.19	41.59	34.77	-18.58	1/1
		690.50	19.93	H	2.76	-1.38	15.79	37.93	34.77	-18.98	1/1
20	QPSK	673.00	20.87	H	2.73	-1.43	16.71	46.88	34.77	-18.06	1/1
		680.50	21.06	H	2.74	-1.41	16.91	49.09	34.77	-17.86	1/1
		688.00	21.02	H	2.76	-1.39	16.88	48.75	34.77	-17.89	1/1
	16-QAM	673.00	19.88	H	2.73	-1.43	15.72	37.33	34.77	-19.05	1/1
		680.50	20.35	H	2.74	-1.41	16.20	41.69	34.77	-18.57	1/1
		688.00	20.07	H	2.76	-1.39	15.93	39.17	34.77	-18.84	1/1

5G NR n71(ANT A)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
5	QPSK	665.50	20.27	V	2.71	-1.45	16.10	40.74	38.50	-18.67	1/1
		680.50	22.32	V	2.74	-1.41	18.17	65.61	38.50	-16.60	1/13
		695.50	22.86	V	2.77	-1.36	18.73	74.64	38.50	-16.04	1/13
	16-QAM	665.50	19.24	V	2.71	-1.45	15.07	32.14	38.50	-19.70	1/1
		680.50	20.77	V	2.74	-1.41	16.62	45.92	38.50	-18.15	1/13
		695.50	21.90	V	2.77	-1.36	17.77	59.84	38.50	-17.00	1/13
10	QPSK	668.00	20.17	V	2.72	-1.45	16.01	39.90	38.50	-18.76	1/1
		680.50	22.09	V	2.74	-1.41	17.94	62.23	38.50	-16.83	1/1
		693.00	22.59	V	2.77	-1.37	18.45	69.98	38.50	-16.32	1/1
	16-QAM	668.00	18.77	V	2.72	-1.45	14.61	28.91	38.50	-20.16	1/1
		680.50	20.78	V	2.74	-1.41	16.61	45.81	38.50	-18.14	1/1
		693.00	21.04	V	2.77	-1.37	16.90	48.98	38.50	-17.87	1/1
15	QPSK	670.50	20.41	V	2.72	-1.44	16.25	42.17	38.50	-18.52	1/1
		680.50	21.72	V	2.74	-1.41	17.57	57.15	38.50	-17.20	1/1
		690.50	21.41	V	2.76	-1.38	17.26	53.21	38.50	-17.51	1/1
	16-QAM	670.50	19.25	V	2.72	-1.44	15.09	32.28	38.50	-19.68	1/1
		680.50	20.61	V	2.74	-1.41	16.46	44.26	38.50	-18.31	1/1
		690.50	20.02	V	2.76	-1.38	15.87	38.64	38.50	-18.90	1/1
20	QPSK	673.00	20.39	V	2.73	-1.43	16.23	41.98	38.50	-18.54	1/1
		680.50	21.35	V	2.74	-1.41	17.20	52.48	38.50	-17.57	1/1
		688.00	21.46	V	2.76	-1.39	17.32	53.95	38.50	-17.45	1/1
	16-QAM	673.00	19.37	V	2.73	-1.43	15.21	33.19	38.50	-19.56	1/1
		680.50	20.10	V	2.74	-1.41	15.95	39.36	38.50	-18.82	1/1
		688.00	20.37	V	2.76	-1.39	16.23	41.98	38.50	-18.54	1/1

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5G NR n77(PC2, 3450-3550 MHz, ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	3455.01	19.78	H	6.16	10.61	24.23	264.85	30.00	-5.77	1/1
		3499.98	20.46	H	6.21	10.67	24.92	310.46	30.00	-5.08	1/12
		3544.98	20.61	H	6.24	10.75	25.12	325.09	30.00	-4.88	1/1
	16-QAM	3455.01	19.09	H	6.16	10.61	23.54	225.94	30.00	-6.46	1/1
		3499.98	19.63	H	6.21	10.67	24.09	256.45	30.00	-5.91	1/12
		3544.98	19.80	H	6.24	10.75	24.31	269.77	30.00	-5.69	1/1
15	QPSK	3457.50	20.52	H	6.17	10.62	24.97	314.05	30.00	-5.03	1/36
		3499.98	20.90	H	6.21	10.67	25.36	343.56	30.00	-4.64	1/36
		3542.49	20.80	H	6.24	10.75	25.30	338.84	30.00	-4.70	1/36
	16-QAM	3457.50	19.52	H	6.17	10.62	23.97	249.46	30.00	-6.03	1/36
		3499.98	20.08	H	6.21	10.67	24.54	284.45	30.00	-5.46	1/36
		3542.49	19.92	H	6.24	10.75	24.42	276.69	30.00	-5.58	1/36
20	QPSK	3460.02	20.46	H	6.17	10.62	24.90	309.03	30.00	-5.10	1/1
		3499.98	20.72	H	6.21	10.67	25.18	329.61	30.00	-4.82	1/1
		3540.00	20.62	H	6.24	10.74	25.12	325.09	30.00	-4.88	1/1
	16-QAM	3460.02	19.65	H	6.17	10.62	24.09	256.45	30.00	-5.91	1/1
		3499.98	19.93	H	6.21	10.67	24.39	274.79	30.00	-5.61	1/1
		3540.00	19.78	H	6.24	10.74	24.28	267.92	30.00	-5.72	1/1
30	QPSK	3465.00	20.80	H	6.17	10.63	25.25	334.97	30.00	-4.75	1/76
		3499.98	20.75	H	6.21	10.67	25.21	331.89	30.00	-4.79	1/1
		3535.02	20.91	H	6.24	10.73	25.40	346.74	30.00	-4.60	1/39
	16-QAM	3465.00	19.99	H	6.17	10.63	24.44	277.97	30.00	-5.56	1/76
		3499.98	19.89	H	6.21	10.67	24.35	272.27	30.00	-5.65	1/1
		3535.02	20.03	H	6.24	10.73	24.52	283.14	30.00	-5.48	1/39
40	QPSK	3470.01	21.04	H	6.18	10.63	25.49	354.00	30.00	-4.51	1/104
		3499.98	21.05	H	6.21	10.67	25.51	355.63	30.00	-4.49	1/104
		3529.98	20.90	H	6.23	10.72	25.39	345.94	30.00	-4.61	1/53
	16-QAM	3470.01	20.06	H	6.18	10.63	24.51	282.49	30.00	-5.49	1/104
		3499.98	20.10	H	6.21	10.67	24.56	285.76	30.00	-5.44	10/104
		3529.98	20.03	H	6.23	10.72	24.52	283.14	30.00	-5.48	1/53
50	QPSK	3480.00	20.73	H	6.18	10.64	25.19	330.37	30.00	-4.81	1/131
		3499.98	20.49	H	6.21	10.67	24.95	312.61	30.00	-5.05	1/1
		3519.99	20.78	H	6.23	10.71	25.26	335.74	30.00	-4.74	1/1
	16-QAM	3480.00	19.89	H	6.19	10.65	24.34	271.64	30.00	-5.66	1/131
		3499.98	19.72	H	6.21	10.67	24.18	261.82	30.00	-5.82	1/1
		3519.99	19.89	H	6.23	10.71	24.37	273.53	30.00	-5.63	1/1
60	QPSK	3480.00	20.57	H	6.19	10.65	25.02	317.69	30.00	-4.98	1/81
		3499.98	20.80	H	6.21	10.67	25.26	335.74	30.00	-4.74	1/81
		3519.99	20.84	H	6.23	10.71	25.32	340.41	30.00	-4.68	1/81
	16-QAM	3480.00	19.84	H	6.19	10.65	24.29	268.53	30.00	-5.71	1/81
		3499.98	19.89	H	6.21	10.67	24.35	272.27	30.00	-5.65	1/81
		3514.98	19.91	H	6.23	10.71	24.39	274.79	30.00	-5.61	1/81
70	QPSK	3485.01	20.31	H	6.20	10.65	24.76	299.23	30.00	-5.24	1/95
		3499.98	20.53	H	6.21	10.67	24.99	315.50	30.00	-5.01	1/95
		3514.98	20.31	H	6.22	10.70	24.78	300.61	30.00	-5.22	1/1
	16-QAM	3485.01	19.46	H	6.20	10.65	23.91	246.04	30.00	-6.09	1/95
		3499.98	19.65	H	6.21	10.67	24.11	257.63	30.00	-5.89	1/95
		3514.98	19.41	H	6.22	10.70	23.88	244.34	30.00	-6.12	1/1
80	QPSK	3490.02	20.41	H	6.20	10.66	24.87	306.90	30.00	-5.13	1/215
		3499.98	20.54	H	6.21	10.67	25.00	316.23	30.00	-5.00	1/109
		3510.00	20.46	H	6.22	10.69	24.93	311.17	30.00	-5.07	1/109
	16-QAM	3490.02	19.57	H	6.20	10.66	24.03	252.93	30.00	-5.97	1/215
		3499.98	19.42	H	6.21	10.67	23.89	244.91	30.00	-6.11	1/109
		3510.00	19.58	H	6.22	10.69	24.05	254.10	30.00	-5.95	1/109
90	QPSK	3495.00	20.53	H	6.21	10.66	24.99	315.50	30.00	-5.01	1/243
		3499.98	20.36	H	6.21	10.67	24.83	304.09	30.00	-5.17	1/243
		3504.99	20.30	H	6.21	10.68	24.76	299.23	30.00	-5.24	1/243
	16-QAM	3495.00	19.70	H	6.21	10.66	24.16	260.62	30.00	-5.84	1/243
		3499.98	19.51	H	6.21	10.67	23.97	249.46	30.00	-6.03	1/243
		3504.99	19.50	H	6.21	10.68	23.96	248.89	30.00	-6.04	1/243
100	QPSK	3499.98	20.20	H	6.21	10.67	24.66	292.42	30.00	-5.34	1/137
	16-QAM	3499.98	19.29	H	6.21	10.67	23.75	237.14	30.00	-6.25	1/137

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5G NR n77(PC2, 3450-3550 MHz, ANT D, SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
40	3470.01	13.76	H	6.18	10.63	18.21	66.22	30.00	-11.79
	3499.98	13.46	H	6.21	10.67	17.92	61.94	30.00	-12.08
	3529.98	12.81	H	6.23	10.72	17.30	53.70	30.00	-12.70

5G NR n77(PC2,3450-3550 MHz, ANT G, SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
15	3457.50	18.13	H	6.17	10.62	22.58	181.13	30.00	-7.42
	3499.98	16.73	H	6.21	10.67	21.19	131.52	30.00	-8.81
	3542.49	13.79	H	6.24	10.74	18.29	67.45	30.00	-11.71

5G NR n77(PC2,3450-3550 MHz, ANT A, SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
40	3470.01	14.67	H	6.18	10.63	19.12	81.66	30.00	-10.88
	3499.98	13.83	H	6.21	10.67	18.29	67.45	30.00	-11.71
	3529.98	13.32	H	6.23	10.72	17.81	60.39	30.00	-12.19

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5G NR n77(PC2,3700-3980 MHz, ANT F)

BW (MHz)	Modulation	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	3705.00	18.89	H	6.39	10.74	23.24	210.98	30.00	-6.76	1/22
		3840.00	16.90	H	6.50	10.58	20.97	125.02	30.00	-9.03	1/12
		3975.00	19.44	H	6.62	10.46	23.27	212.56	30.00	-6.73	1/1
	16-QAM	3705.00	18.12	H	6.39	10.74	22.47	176.70	30.00	-7.53	1/22
		3840.00	16.18	H	6.50	10.58	20.26	106.07	30.00	-9.74	1/12
		3975.00	18.56	H	6.62	10.46	22.40	173.73	30.00	-7.60	1/1
15	QPSK	3707.52	18.88	H	6.39	10.74	23.23	210.46	30.00	-6.77	1/36
		3840.00	16.08	H	6.50	10.58	20.15	103.61	30.00	-9.85	1/36
		3972.48	18.52	H	6.62	10.46	22.36	172.14	30.00	-7.64	1/36
	16-QAM	3707.52	17.70	H	6.39	10.74	22.05	160.20	30.00	-7.95	1/36
		3840.00	15.23	H	6.50	10.58	19.30	85.09	30.00	-10.70	1/36
		3972.48	17.71	H	6.62	10.46	21.55	142.81	30.00	-8.45	1/36
20	QPSK	3710.01	18.44	H	6.39	10.74	22.78	189.71	30.00	-7.22	1/1
		3840.00	15.77	H	6.50	10.58	19.84	96.49	30.00	-10.16	1/1
		3969.99	18.46	H	6.61	10.46	22.31	170.27	30.00	-7.69	1/1
	16-QAM	3710.01	17.01	H	6.39	10.74	21.35	136.55	30.00	-8.65	1/1
		3840.00	14.91	H	6.50	10.58	18.98	79.12	30.00	-11.02	1/1
		3969.99	17.63	H	6.61	10.46	21.48	140.45	30.00	-8.52	1/1
30	QPSK	3715.02	18.41	H	6.40	10.73	22.74	187.97	30.00	-7.26	1/76
		3840.00	15.91	H	6.50	10.58	19.98	99.52	30.00	-10.02	1/39
		3964.98	17.63	H	6.61	10.46	21.48	140.74	30.00	-8.52	1/76
	16-QAM	3715.02	17.57	H	6.40	10.73	21.90	154.91	30.00	-8.10	1/76
		3840.00	14.99	H	6.50	10.58	19.06	80.63	30.00	-10.94	1/39
		3964.98	16.81	H	6.61	10.46	20.66	116.45	30.00	-9.34	1/76
40	QPSK	3720.02	18.29	H	6.40	10.73	22.61	182.45	30.00	-7.39	1/104
		3840.00	15.85	H	6.50	10.58	19.92	98.17	30.00	-10.08	1/104
		3960.00	17.39	H	6.60	10.47	21.25	133.29	30.00	-8.75	1/104
	16-QAM	3720.02	17.46	H	6.40	10.73	21.79	151.02	30.00	-8.21	1/104
		3840.00	15.08	H	6.50	10.58	19.15	82.28	30.00	-10.85	1/104
		3960.00	16.56	H	6.60	10.47	20.42	110.13	30.00	-9.58	1/104
50	QPSK	3725.01	18.07	H	6.41	10.72	22.38	173.08	30.00	-7.62	1/131
		3840.00	16.12	H	6.50	10.58	20.19	104.49	30.00	-9.81	1/67
		3954.99	17.58	H	6.60	10.47	21.44	139.36	30.00	-8.56	1/131
	16-QAM	3725.01	17.11	H	6.41	10.72	21.42	138.82	30.00	-8.58	1/131
		3840.00	15.33	H	6.50	10.58	19.41	87.21	30.00	-10.59	1/67
		3954.99	16.70	H	6.60	10.47	20.56	113.83	30.00	-9.44	1/131
60	QPSK	3730.02	17.95	H	6.41	10.72	22.26	168.14	30.00	-7.74	1/160
		3840.00	16.69	H	6.50	10.58	20.77	119.34	30.00	-9.23	1/81
		3949.98	17.18	H	6.60	10.47	21.05	127.33	30.00	-8.95	1/160
	16-QAM	3730.02	17.00	H	6.41	10.72	21.31	135.11	30.00	-8.69	1/160
		3840.00	15.99	H	6.50	10.58	20.06	101.37	30.00	-9.94	1/81
		3949.98	16.38	H	6.60	10.47	20.25	106.01	30.00	-9.75	1/160
70	QPSK	3735.00	17.86	H	6.41	10.71	22.15	164.07	30.00	-7.85	1/187
		3840.00	16.47	H	6.50	10.58	20.54	113.24	30.00	-9.46	1/95
		3945.00	17.29	H	6.60	10.47	21.17	130.77	30.00	-8.83	1/187
	16-QAM	3735.00	16.95	H	6.41	10.71	21.24	133.12	30.00	-8.76	1/187
		3840.00	15.53	H	6.50	10.58	19.61	91.37	30.00	-10.39	1/95
		3945.00	16.49	H	6.60	10.47	20.37	108.85	30.00	-9.63	1/187
80	QPSK	3740.01	17.91	H	6.42	10.70	22.19	165.62	30.00	-7.81	1/215
		3840.00	14.99	H	6.50	10.58	19.06	80.63	30.00	-10.94	1/109
		3939.99	17.03	H	6.59	10.47	20.91	123.41	30.00	-9.09	1/215
	16-QAM	3740.01	16.89	H	6.42	10.70	21.17	131.04	30.00	-8.83	1/215
		3840.00	14.10	H	6.50	10.58	18.17	65.69	30.00	-11.83	1/109
		3939.99	16.17	H	6.59	10.47	20.05	101.22	30.00	-9.95	1/215
90	QPSK	3745.02	17.74	H	6.43	10.70	22.01	158.77	30.00	-7.99	1/243
		3840.00	16.66	H	6.50	10.58	20.73	118.36	30.00	-9.27	1/123
		3934.98	17.37	H	6.59	10.48	21.26	133.61	30.00	-8.74	1/243
	16-QAM	3745.02	16.79	H	6.43	10.70	21.06	127.72	30.00	-8.94	1/243
		3840.00	15.93	H	6.50	10.58	20.01	100.14	30.00	-9.99	1/123
		3934.98	16.48	H	6.59	10.48	20.37	108.93	30.00	-9.63	1/243
100	QPSK	3750.00	18.26	H	6.43	10.69	22.53	178.87	30.00	-7.47	1/137
		3840.00	16.67	H	6.50	10.58	20.74	118.57	30.00	-9.26	1/137
		3930.00	18.67	H	6.58	10.48	22.57	180.60	30.00	-7.43	1/1
	16-QAM	3750.00	17.35	H	6.43	10.69	21.62	145.09	30.00	-8.38	1/137
		3840.00	15.86	H	6.50	10.58	19.94	98.58	30.00	-10.06	1/137
		3930.00	17.81	H	6.58	10.48	21.70	148.02	30.00	-8.30	1/1

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5G NR n77(PC2,3700-3980 MHz, ANT D, SRS1)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
20	3710.01	10.75	H	6.39	10.74	15.10	32.36	30.00	-14.90
	3840.00	10.40	H	6.50	10.58	14.48	28.05	30.00	-15.52
	3969.99	8.09	H	6.61	10.46	11.94	15.63	30.00	-18.06

5G NR n77(PC2,3700-3980 MHz, ANT G, SRS2)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
30	3715.02	14.57	H	6.40	10.73	18.91	77.80	30.00	-11.09
	3840.00	15.34	H	6.50	10.58	19.42	87.50	30.00	-10.58
	3964.98	15.12	H	6.61	10.46	18.97	78.89	30.00	-11.03

5G NR n77(PC2,3700-3980 MHz, ANT A, SRS3)

BW (MHz)	f (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
30	3715.02	10.25	H	6.40	10.73	14.59	28.77	30.00	-15.41
	3840.00	9.24	H	6.50	10.58	13.32	21.48	30.00	-16.68
	3964.98	9.81	H	6.61	10.46	13.66	23.23	30.00	-16.34

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9.2. RADIATIED SPURIOUS EMISSION

RULE PART(S)

FCC: §2.1053, §27. 53

LIMIT

Part 27.53(h) The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

Part 27.53:
(c)(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB.

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

(h) The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB.

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

(l)(2) For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(n)(2) For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph (n)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

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TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.12; ESU40 setting reference to 971168 D01 v03r01

For peak power measurement with a ESU40:

a) Set the RBW = 100 kHz for emission below 1 GHz and 1 MHz for emissions above 1 GHz
b) Set VBW ≥ 3 × RBW;
c) Set span ≥ 1.5 times the OBW;
d) Sweep time = auto couple;
e) Detector = rms;
f) Ensure that the number of measurement points ≥ span/RBW;
g) Trace Mode = average(WCDMA, LTE FDD, 5G NR FDD), Maxhold(LTE TDD, 5G NR TDD);

NOTE1

5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations (π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

NOTE2

Please refer to section 5.4 for bandwidth and RB setting about LTE, 5G NR bands.

RESULTS

See the following pages.

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9.2.1. SPURIOUS RADIATION PLOTS

WCDMA Band 4

REL99

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

Company:	Samsung
Project #:	4790748041
Date:	2023-05-17
Test Engineer:	26087
Configuration:	EUT / AC Adapter, X-Position, Open
Location:	Chamber 1
Mode:	Rel99 Band 4 Harmonics
Test Votage:	AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.4MHz									
3424.80	-8.8	V	3.0	46.4	1.0	-54.2	-13.0	-41.2	
5137.20	-7.6	V	3.0	46.1	1.0	-52.7	-13.0	-39.7	
6849.60	-4.4	V	3.0	45.5	1.0	-48.8	-13.0	-35.8	
3424.80	-8.5	H	3.0	46.4	1.0	-53.9	-13.0	-40.9	
5137.20	-7.3	H	3.0	46.1	1.0	-52.4	-13.0	-39.4	
6849.60	-4.5	H	3.0	45.5	1.0	-49.0	-13.0	-36.0	
Mid Ch, 1732.6MHz									
3465.20	-8.5	V	3.0	46.4	1.0	-53.9	-13.0	-40.9	
5197.80	-7.4	V	3.0	46.1	1.0	-52.5	-13.0	-39.5	
6930.40	-4.3	V	3.0	45.5	1.0	-48.8	-13.0	-35.8	
3465.20	-8.3	H	3.0	46.4	1.0	-53.6	-13.0	-40.6	
5197.80	-7.2	H	3.0	46.1	1.0	-52.2	-13.0	-39.2	
6930.40	-4.4	H	3.0	45.5	1.0	-48.9	-13.0	-35.9	
High Ch, 1752.6MHz									
3505.20	-8.4	V	3.0	46.3	1.0	-53.8	-13.0	-40.8	
5257.80	-7.3	V	3.0	46.0	1.0	-52.4	-13.0	-39.4	
7010.40	-4.0	V	3.0	45.5	1.0	-48.5	-13.0	-35.5	
3505.20	-7.9	H	3.0	46.3	1.0	-53.2	-13.0	-40.2	
5257.80	-7.0	H	3.0	46.0	1.0	-52.0	-13.0	-39.0	
7010.40	-4.2	H	3.0	45.5	1.0	-48.7	-13.0	-35.7	

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LTE Band 7

5MHz QPSK ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-03
Test Engineer: 26087
Configuration: EUT / Y-Position, FF
Location: Chamber 2
Mode: LTE_QPSK Band 7 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2502.5MHz									
5005.00	-19.7	V	3.0	42.8	1.0	-61.5	-25.0	-36.5	
7507.50	-18.5	V	3.0	42.4	1.0	-59.9	-25.0	-34.9	
10010.00	-16.2	V	3.0	40.9	1.0	-56.1	-25.0	-31.1	
5005.00	-20.4	H	3.0	42.8	1.0	-62.2	-25.0	-37.2	
7507.50	-18.3	H	3.0	42.4	1.0	-59.7	-25.0	-34.7	
10010.00	-15.8	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2535MHz									
5070.00	-19.7	V	3.0	42.8	1.0	-61.5	-25.0	-36.5	
7605.00	-17.4	V	3.0	42.4	1.0	-58.7	-25.0	-33.7	
10140.00	-15.9	V	3.0	40.9	1.0	-55.8	-25.0	-30.8	
5070.00	-20.4	H	3.0	42.8	1.0	-62.2	-25.0	-37.2	
7605.00	-16.6	H	3.0	42.4	1.0	-57.9	-25.0	-32.9	
10140.00	-15.8	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
High Ch, 2567.5MHz									
5135.00	-19.7	V	3.0	42.8	1.0	-61.5	-25.0	-36.5	
7702.50	-18.9	V	3.0	42.3	1.0	-60.2	-25.0	-35.2	
10270.00	-15.3	V	3.0	41.0	1.0	-55.2	-25.0	-30.2	
5135.00	-20.5	H	3.0	42.8	1.0	-62.3	-25.0	-37.3	
7702.50	-18.9	H	3.0	42.3	1.0	-60.2	-25.0	-35.2	
10270.00	-15.2	H	3.0	41.0	1.0	-55.2	-25.0	-30.2	

10 MHz QPSK ANT F

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-25
Test Engineer: 19568
Configuration: EUT / Adpater, Y-Position, HF
Location: Chamber 2
Mode: LTE_QPSK Band 7 Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2505MHz									
5010.00	-19.6	V	3.0	42.8	1.0	-61.4	-25.0	-36.4	
7515.00	-18.3	V	3.0	42.4	1.0	-59.7	-25.0	-34.7	
10020.00	-14.0	V	3.0	40.9	1.0	-53.9	-25.0	-28.9	
5010.00	-20.2	H	3.0	42.8	1.0	-62.0	-25.0	-37.0	
7515.00	-20.3	H	3.0	42.4	1.0	-61.7	-25.0	-36.7	
10020.00	-17.9	H	3.0	40.9	1.0	-57.7	-25.0	-32.7	
Mid Ch, 2535MHz									
5070.00	-20.0	V	3.0	42.8	1.0	-61.8	-25.0	-36.8	
7605.00	-17.2	V	3.0	42.4	1.0	-58.6	-25.0	-33.6	
10140.00	-14.5	V	3.0	40.9	1.0	-54.4	-25.0	-29.4	
5070.00	-22.7	H	3.0	42.8	1.0	-64.5	-25.0	-39.5	
7605.00	-17.4	H	3.0	42.4	1.0	-58.8	-25.0	-33.8	
10140.00	-14.3	H	3.0	40.9	1.0	-54.2	-25.0	-29.2	
High Ch, 2565MHz									
5130.00	-19.6	V	3.0	42.8	1.0	-61.4	-25.0	-36.4	
7695.00	-17.1	V	3.0	42.3	1.0	-58.5	-25.0	-33.5	
10260.00	-17.2	V	3.0	41.0	1.0	-57.2	-25.0	-32.2	
5130.00	-23.5	H	3.0	42.8	1.0	-65.3	-25.0	-40.3	
7695.00	-21.6	H	3.0	42.3	1.0	-62.9	-25.0	-37.9	
10260.00	-13.6	H	3.0	41.0	1.0	-53.5	-25.0	-28.5	

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LTE Band 12

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-02
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 2
Mode: LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

5 MHz
QPSK
ANT A+B

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 701.5MHz									
1403.00	-16.4	V	3.0	40.7	1.0	-56.1	-13.0	-43.1	
2104.50	-13.2	V	3.0	40.8	1.0	-53.0	-13.0	-40.0	
2806.00	-11.4	V	3.0	41.8	1.0	-52.1	-13.0	-39.1	
1403.00	-17.4	H	3.0	40.7	1.0	-57.1	-13.0	-44.1	
2104.50	-13.1	H	3.0	40.8	1.0	-52.9	-13.0	-39.9	
2806.00	-11.5	H	3.0	41.8	1.0	-52.2	-13.0	-39.2	
Mid Ch, 707.5MHz									
1415.00	-16.4	V	3.0	40.7	1.0	-56.1	-13.0	-43.1	
2122.50	-12.4	V	3.0	40.8	1.0	-52.2	-13.0	-39.2	
2830.00	-11.4	V	3.0	41.8	1.0	-52.2	-13.0	-39.2	
1415.00	-17.3	H	3.0	40.7	1.0	-57.0	-13.0	-44.0	
2122.50	-11.1	H	3.0	40.8	1.0	-50.9	-13.0	-37.9	
2830.00	-11.4	H	3.0	41.8	1.0	-52.2	-13.0	-39.2	
High Ch, 713.5MHz									
1427.00	-16.3	V	3.0	40.7	1.0	-56.0	-13.0	-43.0	
2140.50	-13.0	V	3.0	40.8	1.0	-52.8	-13.0	-39.8	
2854.00	-11.1	V	3.0	41.8	1.0	-51.9	-13.0	-38.9	
1427.00	-17.0	H	3.0	40.7	1.0	-56.8	-13.0	-43.8	
2140.50	-13.3	H	3.0	40.8	1.0	-53.1	-13.0	-40.1	
2854.00	-11.3	H	3.0	41.8	1.0	-52.1	-13.0	-39.1	

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

Company: Samsung
Project #: 4790748041
Date: 2023-03-24
Test Engineer: 25770
Configuration: EUT / AC Adapter, Z-Position, FF
Location: Chamber 1
Mode: LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

10 MHz
QPSK
ANT A

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704MHz									
1408.00	-14.8	V	3.0	46.2	1.0	-60.0	-13.0	-47.0	
2112.00	2.0	V	3.0	46.8	1.0	-43.7	-13.0	-30.7	
2816.00	-10.6	V	3.0	47.0	1.0	-56.6	-13.0	-43.6	
1408.00	-16.6	H	3.0	46.2	1.0	-61.9	-13.0	-48.9	
2112.00	-1.2	H	3.0	46.8	1.0	-47.0	-13.0	-34.0	
2816.00	-10.7	H	3.0	47.0	1.0	-56.7	-13.0	-43.7	
Mid Ch, 707.5MHz									
1415.00	-15.2	V	3.0	46.2	1.0	-60.5	-13.0	-47.5	
2122.50	0.5	V	3.0	46.8	1.0	-45.3	-13.0	-32.3	
2830.00	-10.5	V	3.0	47.0	1.0	-56.5	-13.0	-43.5	
1415.00	-16.5	H	3.0	46.2	1.0	-61.8	-13.0	-48.8	
2122.50	-1.4	H	3.0	46.8	1.0	-47.2	-13.0	-34.2	
2830.00	-12.2	H	3.0	47.0	1.0	-58.2	-13.0	-45.2	
High Ch, 711MHz									
1422.00	-15.5	V	3.0	46.2	1.0	-60.8	-13.0	-47.8	
2133.00	-2.7	V	3.0	46.8	1.0	-48.5	-13.0	-35.5	
2844.00	-10.4	V	3.0	47.0	1.0	-56.4	-13.0	-43.4	
1422.00	-16.7	H	3.0	46.2	1.0	-62.0	-13.0	-49.0	
2133.00	-3.0	H	3.0	46.8	1.0	-48.8	-13.0	-35.8	
2844.00	-10.5	H	3.0	47.0	1.0	-56.5	-13.0	-43.5	

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LTE Band 13

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-25
Test Engineer: 25770
Configuration: EUT / AC Adapter, Z-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 13 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

5 MHz
QPSK
ANT A+B

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5MHz									
1559.00	-20.6	V	3.0	40.7	1.0	-60.2	-40.0	-20.2	
2338.50	-5.2	V	3.0	41.1	1.0	-45.3	-13.0	-32.3	
3118.00	-10.1	V	3.0	42.0	1.0	-51.2	-13.0	-38.2	
1559.00	-22.1	H	3.0	40.7	1.0	-61.8	-40.0	-21.8	
2338.50	-6.8	H	3.0	41.1	1.0	-46.9	-13.0	-33.9	
3118.00	-10.3	H	3.0	42.0	1.0	-51.4	-13.0	-38.4	
Mid Ch, 782MHz									
1564.00	-21.7	V	3.0	40.7	1.0	-61.4	-40.0	-21.4	
2346.00	-5.0	V	3.0	41.1	1.0	-45.1	-13.0	-32.1	
3128.00	-10.0	V	3.0	42.0	1.0	-51.0	-13.0	-38.0	
1564.00	-24.7	H	3.0	40.7	1.0	-64.4	-40.0	-24.4	
2346.00	-7.0	H	3.0	41.1	1.0	-47.1	-13.0	-34.1	
3128.00	-10.3	H	3.0	42.0	1.0	-51.3	-13.0	-38.3	
High Ch, 784.5MHz									
1569.00	-20.5	V	3.0	40.7	1.0	-60.2	-40.0	-20.2	
2353.50	-4.8	V	3.0	41.1	1.0	-44.9	-13.0	-31.9	
3138.00	-11.0	V	3.0	42.0	1.0	-52.0	-13.0	-39.0	
1569.00	-22.9	H	3.0	40.7	1.0	-62.5	-40.0	-22.5	
2353.50	-7.9	H	3.0	41.1	1.0	-48.0	-13.0	-35.0	
3138.00	-10.1	H	3.0	42.0	1.0	-51.2	-13.0	-38.2	

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-26
Test Engineer: 24542
Configuration: EUT / AC Adapter, Y-Position, FF
Location: Chamber 2
Mode: LTE_QPSK Band 13 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

5 MHz
QPSK
ANT A

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 779.5MHz									
1559.00	-23.0	V	3.0	40.7	1.0	-62.6	-40.0	-22.6	
2338.50	-11.6	V	3.0	41.1	1.0	-51.7	-13.0	-38.7	
3118.00	-10.2	V	3.0	42.0	1.0	-51.3	-13.0	-38.3	
1559.00	-22.2	H	3.0	40.7	1.0	-61.9	-40.0	-21.9	
2338.50	-11.0	H	3.0	41.1	1.0	-51.1	-13.0	-38.1	
3118.00	-10.3	H	3.0	42.0	1.0	-51.4	-13.0	-38.4	
Mid Ch, 782MHz									
1564.00	-20.7	V	3.0	40.7	1.0	-60.4	-40.0	-20.4	
2346.00	-12.0	V	3.0	41.1	1.0	-52.1	-13.0	-39.1	
3128.00	-10.1	V	3.0	42.0	1.0	-51.1	-13.0	-38.1	
1564.00	-22.0	H	3.0	40.7	1.0	-61.7	-40.0	-21.7	
2346.00	-10.1	H	3.0	41.1	1.0	-50.2	-13.0	-37.2	
3128.00	-10.4	H	3.0	42.0	1.0	-51.4	-13.0	-38.4	
High Ch, 784.5MHz									
1569.00	-20.7	V	3.0	40.7	1.0	-60.4	-40.0	-20.4	
2353.50	-10.7	V	3.0	41.1	1.0	-50.8	-13.0	-37.8	
3138.00	-10.1	V	3.0	42.0	1.0	-51.1	-13.0	-38.1	
1569.00	-19.5	H	3.0	40.7	1.0	-59.2	-40.0	-19.2	
2353.50	-9.1	H	3.0	41.1	1.0	-49.2	-13.0	-36.2	
3138.00	-10.2	H	3.0	42.0	1.0	-51.3	-13.0	-38.3	

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LTE Band 30

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-25
Test Engineer: 25770
Configuration: EUT, X-Position, HF
Location: Chamber 1
Mode: LTE_QPSK Band 30 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

5 MHz
QPSK
ANT B

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2307.5MHz									
4615.00	-16.8	V	3.0	46.0	1.0	-61.8	-40.0	-21.8	
6922.50	-16.2	V	3.0	45.5	1.0	-60.7	-40.0	-20.7	
9230.00	-15.5	V	3.0	45.5	1.0	-60.1	-40.0	-20.1	
4615.00	-16.6	H	3.0	46.0	1.0	-61.6	-40.0	-21.6	
6922.50	-16.5	H	3.0	45.5	1.0	-61.0	-40.0	-21.0	
9230.00	-15.5	H	3.0	45.5	1.0	-60.0	-40.0	-20.0	
Mid Ch, 2310MHz									
4620.00	-17.0	V	3.0	46.0	1.0	-62.0	-40.0	-22.0	
6930.00	-16.4	V	3.0	45.5	1.0	-60.9	-40.0	-20.9	
9240.00	-15.5	V	3.0	45.5	1.0	-60.0	-40.0	-20.0	
4620.00	-16.5	H	3.0	46.0	1.0	-61.5	-40.0	-21.5	
6930.00	-16.8	H	3.0	45.5	1.0	-61.3	-40.0	-21.3	
9240.00	-15.4	H	3.0	45.5	1.0	-59.9	-40.0	-19.9	
High Ch, 2312.5MHz									
4625.00	-16.9	V	3.0	46.0	1.0	-61.9	-40.0	-21.9	
6937.50	-16.4	V	3.0	45.5	1.0	-60.9	-40.0	-20.9	
9250.00	-15.3	V	3.0	45.5	1.0	-59.8	-40.0	-19.8	
4625.00	-16.5	H	3.0	46.0	1.0	-61.5	-40.0	-21.5	
6937.50	-16.7	H	3.0	45.5	1.0	-61.2	-40.0	-21.2	
9250.00	-15.2	H	3.0	45.5	1.0	-59.7	-40.0	-19.7	

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-24
Test Engineer: 26087
Configuration: EUT / AC Adapter, Z-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 30 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

5 MHz
QPSK
ANT F

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2307.5MHz									
4615.00	-25.4	V	3.0	42.5	1.0	-66.9	-40.0	-26.9	
6922.50	-24.0	V	3.0	42.7	1.0	-65.7	-40.0	-25.7	
9230.00	-23.2	V	3.0	41.6	1.0	-63.7	-40.0	-23.7	
4615.00	-25.3	H	3.0	42.5	1.0	-66.8	-40.0	-26.8	
6922.50	-24.1	H	3.0	42.7	1.0	-65.8	-40.0	-25.8	
9230.00	-22.9	H	3.0	41.6	1.0	-63.5	-40.0	-23.5	
Mid Ch, 2310MHz									
4620.00	-25.3	V	3.0	42.5	1.0	-66.8	-40.0	-26.8	
6930.00	-24.0	V	3.0	42.7	1.0	-65.7	-40.0	-25.7	
9240.00	-23.1	V	3.0	41.5	1.0	-63.7	-40.0	-23.7	
4620.00	-25.3	H	3.0	42.5	1.0	-66.8	-40.0	-26.8	
6930.00	-24.0	H	3.0	42.7	1.0	-65.7	-40.0	-25.7	
9240.00	-23.0	H	3.0	41.5	1.0	-63.6	-40.0	-23.6	
High Ch, 2312.5MHz									
4625.00	-25.2	V	3.0	42.5	1.0	-66.7	-40.0	-26.7	
6937.50	-24.0	V	3.0	42.7	1.0	-65.7	-40.0	-25.7	
9250.00	-23.2	V	3.0	41.5	1.0	-63.8	-40.0	-23.8	
4625.00	-25.2	H	3.0	42.5	1.0	-66.7	-40.0	-26.7	
6937.50	-24.1	H	3.0	42.7	1.0	-65.8	-40.0	-25.8	
9250.00	-23.2	H	3.0	41.5	1.0	-63.7	-40.0	-23.7	

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LTE Band 41(PC2)

5 MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-11
Test Engineer: 26087
Configuration: EUT / AC Adapter, Y-Position, Open
Location: Chamber 1
Mode: LTE_QPSK Band 41 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2498.5MHz									
4997.00	-11.4	V	3.0	46.2	1.0	-56.6	-25.0	-31.6	
7495.50	-2.0	V	3.0	45.5	1.0	-46.6	-25.0	-21.6	
9994.00	-10.0	V	3.0	45.5	1.0	-54.6	-25.0	-29.6	
4997.00	-11.9	H	3.0	46.2	1.0	-57.2	-25.0	-32.2	
7495.50	-5.2	H	3.0	45.5	1.0	-49.7	-25.0	-24.7	
9994.00	-9.8	H	3.0	45.5	1.0	-54.4	-25.0	-29.4	
Mid Ch, 2593MHz									
5186.00	-11.0	V	3.0	46.1	1.0	-56.1	-25.0	-31.1	
7779.00	-1.3	V	3.0	45.6	1.0	-45.9	-25.0	-20.9	
10372.00	-10.0	V	3.0	45.9	1.0	-54.8	-25.0	-29.8	
5186.00	-11.4	H	3.0	46.1	1.0	-56.5	-25.0	-31.5	
7779.00	-4.8	H	3.0	45.6	1.0	-49.4	-25.0	-24.4	
10372.00	-9.7	H	3.0	45.9	1.0	-54.6	-25.0	-29.6	
High Ch, 2687.5MHz									
5375.00	-10.8	V	3.0	45.9	1.0	-55.7	-25.0	-30.7	
8062.50	-2.0	V	3.0	45.6	1.0	-46.6	-25.0	-21.6	
10750.00	-9.5	V	3.0	46.2	1.0	-54.7	-25.0	-29.7	
5375.00	-11.8	H	3.0	45.9	1.0	-56.8	-25.0	-31.8	
8062.50	-4.9	H	3.0	45.6	1.0	-49.5	-25.0	-24.5	
10750.00	-9.2	H	3.0	46.2	1.0	-54.4	-25.0	-29.4	

15 MHz
QPSK
ANT F

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-25
Test Engineer: 19568
Configuration: EUT / AC Adpater, Y-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 15MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.5MHz									
5007.00	-17.0	V	3.0	42.8	1.0	-58.8	-25.0	-33.8	
7510.50	-11.4	V	3.0	42.4	1.0	-52.8	-25.0	-27.8	
10014.00	-11.6	V	3.0	40.9	1.0	-51.5	-25.0	-26.5	
5007.00	-17.1	H	3.0	42.8	1.0	-58.8	-25.0	-33.8	
7510.50	-10.9	H	3.0	42.4	1.0	-52.3	-25.0	-27.3	
10014.00	-11.1	H	3.0	40.9	1.0	-51.0	-25.0	-26.0	
Mid Ch, 2593MHz									
5186.00	-15.5	V	3.0	42.8	1.0	-57.4	-25.0	-32.4	
7779.00	-4.2	V	3.0	42.3	1.0	-45.5	-25.0	-20.5	
10372.00	-11.0	V	3.0	41.0	1.0	-51.0	-25.0	-26.0	
5186.00	-12.2	H	3.0	42.8	1.0	-54.0	-25.0	-29.0	
7779.00	-10.4	H	3.0	42.3	1.0	-51.7	-25.0	-26.7	
10372.00	-10.7	H	3.0	41.0	1.0	-50.7	-25.0	-25.7	
High Ch, 2682.5MHz									
5365.00	-15.6	V	3.0	42.9	1.0	-57.4	-25.0	-32.4	
8047.50	-0.7	V	3.0	42.2	1.0	-41.9	-25.0	-16.9	
10730.00	-10.1	V	3.0	41.2	1.0	-50.3	-25.0	-25.3	
5365.00	-13.1	H	3.0	42.9	1.0	-54.9	-25.0	-29.9	
8047.50	-2.0	H	3.0	42.2	1.0	-43.2	-25.0	-18.2	
10730.00	-9.9	H	3.0	41.2	1.0	-50.0	-25.0	-25.0	

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LTE Band 41(UL CA)

20+20 MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-10
Test Engineer: 25770
Configuration: EUT / AC Adpater, Y-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 20+20MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 2506MHz SCC : 2525.8MHz									
5031.80	-18.8	V	3.0	42.8	1.0	-60.6	-25.0	-35.6	
7547.70	-12.8	V	3.0	42.4	1.0	-54.2	-25.0	-29.2	
10063.60	-14.9	V	3.0	40.9	1.0	-54.8	-25.0	-29.8	
5031.80	-19.6	H	3.0	42.8	1.0	-61.3	-25.0	-36.3	
7547.70	-13.2	H	3.0	42.4	1.0	-54.6	-25.0	-29.6	
10063.60	-14.7	H	3.0	40.9	1.0	-54.6	-25.0	-29.6	
Mid Ch, PCC : 2583.1MHz SCC : 2602.9MHz									
5186.00	-18.3	V	3.0	42.8	1.0	-60.1	-25.0	-35.1	
7779.00	-15.6	V	3.0	42.3	1.0	-56.9	-25.0	-31.9	
10372.00	-14.5	V	3.0	41.0	1.0	-54.5	-25.0	-29.5	
5186.00	-17.3	H	3.0	42.8	1.0	-59.1	-25.0	-34.1	
7779.00	-15.3	H	3.0	42.3	1.0	-56.6	-25.0	-31.6	
10372.00	-14.4	H	3.0	41.0	1.0	-54.4	-25.0	-29.4	
High Ch, PCC : 2660.2MHz SCC : 2680MHz									
5340.20	-18.2	V	3.0	42.8	1.0	-60.1	-25.0	-35.1	
8010.30	-12.4	V	3.0	42.2	1.0	-53.6	-25.0	-28.6	
10680.40	-13.7	V	3.0	41.1	1.0	-53.9	-25.0	-28.9	
5340.20	-19.1	H	3.0	42.8	1.0	-61.0	-25.0	-36.0	
8010.30	-12.1	H	3.0	42.2	1.0	-53.3	-25.0	-28.3	
10680.40	-13.5	H	3.0	41.1	1.0	-53.7	-25.0	-28.7	

20+20 MHz
QPSK
ANT F
Tx Hopping

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-10
Test Engineer: 26087
Configuration: EUT / AC Adapter, Z-Position, HF
Location: Chamber 2
Mode: LTE_QPSK Band 41 Harmonics, 20+20MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 2506MHz SCC : 2525.8MHz									
5031.80	-17.7	V	3.0	42.8	1.0	-59.4	-25.0	-34.4	
7547.70	-14.5	V	3.0	42.4	1.0	-55.9	-25.0	-30.9	
10063.60	-13.5	V	3.0	40.9	1.0	-53.4	-25.0	-28.4	
5031.80	-16.6	H	3.0	42.8	1.0	-58.4	-25.0	-33.4	
7547.70	-14.8	H	3.0	42.4	1.0	-56.2	-25.0	-31.2	
10063.60	-13.1	H	3.0	40.9	1.0	-53.0	-25.0	-28.0	
Mid Ch, PCC : 2583.1MHz SCC : 2602.9MHz									
5186.00	-16.9	V	3.0	42.8	1.0	-58.7	-25.0	-33.7	
7779.00	-10.5	V	3.0	42.3	1.0	-51.8	-25.0	-26.8	
10372.00	-13.2	V	3.0	41.0	1.0	-53.2	-25.0	-28.2	
5186.00	-15.3	H	3.0	42.8	1.0	-57.1	-25.0	-32.1	
7779.00	-5.2	H	3.0	42.3	1.0	-46.5	-25.0	-21.5	
10372.00	-12.6	H	3.0	41.0	1.0	-52.6	-25.0	-27.6	
High Ch, PCC : 2660.2MHz SCC : 2680MHz									
5340.20	-14.7	V	3.0	42.8	1.0	-56.5	-25.0	-31.5	
8010.30	-5.8	V	3.0	42.2	1.0	-46.9	-25.0	-21.9	
10680.40	-12.0	V	3.0	41.1	1.0	-52.2	-25.0	-27.2	
5340.20	-14.9	H	3.0	42.8	1.0	-56.7	-25.0	-31.7	
8010.30	-2.0	H	3.0	42.2	1.0	-43.2	-25.0	-18.2	
10680.40	-11.8	H	3.0	41.1	1.0	-52.0	-25.0	-27.0	

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LTE Band 66

5 MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-03
Test Engineer: 26087
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-9.0	V	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5137.50	-8.9	V	3.0	42.8	1.0	-50.7	-13.0	-37.7	
6850.00	-5.8	V	3.0	42.7	1.0	-47.5	-13.0	-34.5	
3425.00	-9.1	H	3.0	42.1	1.0	-50.1	-13.0	-37.1	
5137.50	-8.8	H	3.0	42.8	1.0	-50.6	-13.0	-37.6	
6850.00	-5.9	H	3.0	42.7	1.0	-47.6	-13.0	-34.6	
Mid Ch, 1745MHz									
3490.00	-8.5	V	3.0	42.1	1.0	-49.6	-13.0	-36.6	
5235.00	-8.6	V	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6980.00	-5.6	V	3.0	42.7	1.0	-47.3	-13.0	-34.3	
3490.00	-8.9	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5235.00	-8.6	H	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6980.00	-5.6	H	3.0	42.7	1.0	-47.3	-13.0	-34.3	
High Ch, 1777.5MHz									
3555.00	-7.3	V	3.0	42.1	1.0	-48.4	-13.0	-35.4	
5332.50	-8.1	V	3.0	42.8	1.0	-49.9	-13.0	-36.9	
7110.00	-5.6	V	3.0	42.6	1.0	-47.3	-13.0	-34.3	
3555.00	-7.6	H	3.0	42.1	1.0	-48.7	-13.0	-35.7	
5332.50	-8.2	H	3.0	42.8	1.0	-50.0	-13.0	-37.0	
7110.00	-5.5	H	3.0	42.6	1.0	-47.1	-13.0	-34.1	

5 MHz
QPSK
ANT F
Tx Hopping

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-25
Test Engineer: 19568
Configuration: EUT / X-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1712.5MHz									
3425.00	-7.8	V	3.0	42.1	1.0	-48.9	-13.0	-35.9	
5137.50	-6.8	V	3.0	42.8	1.0	-48.6	-13.0	-35.6	
6850.00	-7.3	V	3.0	42.7	1.0	-49.0	-13.0	-36.0	
3425.00	-8.0	H	3.0	42.1	1.0	-49.0	-13.0	-36.0	
5137.50	-7.3	H	3.0	42.8	1.0	-49.1	-13.0	-36.1	
6850.00	-4.0	H	3.0	42.7	1.0	-45.7	-13.0	-32.7	
Mid Ch, 1745MHz									
3490.00	-7.0	V	3.0	42.1	1.0	-48.1	-13.0	-35.1	
5235.00	-7.4	V	3.0	42.8	1.0	-49.2	-13.0	-36.2	
6980.00	-4.2	V	3.0	42.7	1.0	-45.9	-13.0	-32.9	
3490.00	-7.6	H	3.0	42.1	1.0	-48.6	-13.0	-35.6	
5235.00	-10.0	H	3.0	42.8	1.0	-51.8	-13.0	-38.8	
6980.00	-7.8	H	3.0	42.7	1.0	-49.5	-13.0	-36.5	
High Ch, 1777.5MHz									
3555.00	-9.0	V	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5332.50	-6.6	V	3.0	42.8	1.0	-48.4	-13.0	-35.4	
7110.00	-4.3	V	3.0	42.6	1.0	-46.0	-13.0	-33.0	
3555.00	-9.5	H	3.0	42.1	1.0	-50.5	-13.0	-37.5	
5332.50	-6.4	H	3.0	42.8	1.0	-48.2	-13.0	-35.2	
7110.00	-3.5	H	3.0	42.6	1.0	-45.1	-13.0	-32.1	

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LTE Band 66B (UL CA)

5+5 MHz

QPSK

ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-11
Test Engineer: 26087
Configuration: EUT / AC Adapter, X-Position, HF
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 5+5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 1715MHz SCC : 1724.9MHz									
3429.80	-8.8	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5144.70	-8.9	V	3.0	42.8	1.0	-50.7	-13.0	-37.7	
6859.60	-5.7	V	3.0	42.7	1.0	-47.4	-13.0	-34.4	
3429.80	-9.0	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5144.70	-8.6	H	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6859.60	-5.8	H	3.0	42.7	1.0	-47.5	-13.0	-34.5	
Mid Ch, PCC : 1740.1MHz SCC : 1750MHz									
3490.00	-8.7	V	3.0	42.1	1.0	-49.7	-13.0	-36.7	
5235.00	-8.0	V	3.0	42.8	1.0	-49.8	-13.0	-36.8	
6980.00	-5.7	V	3.0	42.7	1.0	-47.4	-13.0	-34.4	
3490.00	-8.9	H	3.0	42.1	1.0	-49.9	-13.0	-36.9	
5235.00	-7.8	H	3.0	42.8	1.0	-49.7	-13.0	-36.7	
6980.00	-5.8	H	3.0	42.7	1.0	-47.5	-13.0	-34.5	
High Ch, PCC : 1765.1MHz SCC : 1775MHz									
3550.20	-7.7	V	3.0	42.1	1.0	-48.7	-13.0	-35.7	
5325.30	-8.2	V	3.0	42.8	1.0	-50.1	-13.0	-37.1	
7100.40	-5.7	V	3.0	42.6	1.0	-47.3	-13.0	-34.3	
3550.20	-8.0	H	3.0	42.1	1.0	-49.0	-13.0	-36.0	
5325.30	-8.2	H	3.0	42.8	1.0	-50.0	-13.0	-37.0	
7100.40	-5.6	H	3.0	42.6	1.0	-47.2	-13.0	-34.2	

5+5 MHz

QPSK

ANT F

Tx Hopping

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-11
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 5+5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 1712.5MHz SCC : 1717.3MHz									
3429.80	-8.7	V	3.0	42.1	1.0	-49.7	-13.0	-36.7	
5144.70	-8.9	V	3.0	42.8	1.0	-50.7	-13.0	-37.7	
6859.60	-5.9	V	3.0	42.7	1.0	-47.6	-13.0	-34.6	
3429.80	-9.0	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5144.70	-8.8	H	3.0	42.8	1.0	-50.6	-13.0	-37.6	
6859.60	-6.0	H	3.0	42.7	1.0	-47.7	-13.0	-34.7	
Mid Ch, PCC : 1742.6MHz SCC : 1747.4MHz									
3490.00	-8.8	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5235.00	-7.6	V	3.0	42.8	1.0	-49.5	-13.0	-36.5	
6980.00	-5.8	V	3.0	42.7	1.0	-47.5	-13.0	-34.5	
3490.00	-8.9	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5235.00	-8.5	H	3.0	42.8	1.0	-50.3	-13.0	-37.3	
6980.00	-5.9	H	3.0	42.7	1.0	-47.6	-13.0	-34.6	
High Ch, PCC : 1772.7MHz SCC : 1777.5MHz									
3550.20	-7.8	V	3.0	42.1	1.0	-48.8	-13.0	-35.8	
5325.30	-8.2	V	3.0	42.8	1.0	-50.1	-13.0	-37.1	
7100.40	-5.7	V	3.0	42.6	1.0	-47.3	-13.0	-34.3	
3550.20	-7.8	H	3.0	42.1	1.0	-48.8	-13.0	-35.8	
5325.30	-8.1	H	3.0	42.8	1.0	-49.9	-13.0	-36.9	
7100.40	-5.8	H	3.0	42.6	1.0	-47.4	-13.0	-34.4	

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LTE Band 66C (UL CA)

20+20MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-11
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 20+20MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 1720MHz SCC : 1739.8MHz									
3459.80	-8.7	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5189.70	-8.7	V	3.0	42.8	1.0	-50.5	-13.0	-37.5	
6919.60	-5.9	V	3.0	42.7	1.0	-47.6	-13.0	-34.6	
3459.80	-9.0	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5189.70	-8.6	H	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6919.60	-6.0	H	3.0	42.7	1.0	-47.7	-13.0	-34.7	
Mid Ch, PCC : 1735.1MHz SCC : 1754.9MHz									
3490.00	-8.7	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5235.00	-8.8	V	3.0	42.8	1.0	-50.6	-13.0	-37.6	
6980.00	-5.8	V	3.0	42.7	1.0	-47.5	-13.0	-34.5	
3490.00	-8.8	H	3.0	42.1	1.0	-49.9	-13.0	-36.9	
5235.00	-8.5	H	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6980.00	-5.9	H	3.0	42.7	1.0	-47.6	-13.0	-34.6	
High Ch, PCC : 1750.2MHz SCC : 1770MHz									
3520.20	-8.8	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5280.30	-8.6	V	3.0	42.8	1.0	-50.4	-13.0	-37.4	
7040.40	-5.7	V	3.0	42.7	1.0	-47.4	-13.0	-34.4	
3520.20	-9.0	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5280.30	-8.5	H	3.0	42.8	1.0	-50.3	-13.0	-37.3	
7040.40	-5.7	H	3.0	42.7	1.0	-47.4	-13.0	-34.4	

20+20MHz
QPSK
ANT F
Tx Hopping

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-11
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: LTE_QPSK Band 66 Harmonics, 20+20MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, PCC : 1720MHz SCC : 1739.8MHz									
3459.80	-8.7	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5189.70	-8.7	V	3.0	42.8	1.0	-50.5	-13.0	-37.5	
6919.60	-6.0	V	3.0	42.7	1.0	-47.7	-13.0	-34.7	
3459.80	-8.8	H	3.0	42.1	1.0	-49.9	-13.0	-36.9	
5189.70	-8.6	H	3.0	42.8	1.0	-50.4	-13.0	-37.4	
6919.60	-6.0	H	3.0	42.7	1.0	-47.7	-13.0	-34.7	
Mid Ch, PCC : 1735.1MHz SCC : 1754.9MHz									
3490.00	-8.7	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5235.00	-8.8	V	3.0	42.8	1.0	-50.6	-13.0	-37.6	
6980.00	-5.8	V	3.0	42.7	1.0	-47.5	-13.0	-34.5	
3490.00	-8.9	H	3.0	42.1	1.0	-50.0	-13.0	-37.0	
5235.00	-8.6	H	3.0	42.8	1.0	-50.5	-13.0	-37.5	
6980.00	-5.9	H	3.0	42.7	1.0	-47.6	-13.0	-34.6	
High Ch, PCC : 1750.2MHz SCC : 1770MHz									
3520.20	-8.7	V	3.0	42.1	1.0	-49.8	-13.0	-36.8	
5280.30	-8.6	V	3.0	42.8	1.0	-50.4	-13.0	-37.4	
7040.40	-5.7	V	3.0	42.7	1.0	-47.4	-13.0	-34.4	
3520.20	-8.9	H	3.0	42.1	1.0	-49.9	-13.0	-36.9	
5280.30	-8.5	H	3.0	42.8	1.0	-50.3	-13.0	-37.3	
7040.40	-5.7	H	3.0	42.7	1.0	-47.4	-13.0	-34.4	

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LTE Band 71

10 MHz
QPSK
ANT A+B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-02
Test Engineer: 25770
Configuration: EUT / AC Adapter, Z-Position, FF
Location: Chamber 2
Mode: LTE_QPSK Band 71 Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 668MHz									
1336.00	-17.0	V	3.0	40.7	1.0	-56.7	-13.0	-43.7	
2004.00	-12.2	V	3.0	40.6	1.0	-51.8	-13.0	-38.8	
2672.00	-11.6	V	3.0	41.6	1.0	-52.2	-13.0	-39.2	
1336.00	-18.1	H	3.0	40.7	1.0	-57.9	-13.0	-44.9	
2004.00	-12.0	H	3.0	40.6	1.0	-51.6	-13.0	-38.6	
2672.00	-11.9	H	3.0	41.6	1.0	-52.5	-13.0	-39.5	
Mid Ch, 680.5MHz									
1361.00	-16.8	V	3.0	40.7	1.0	-56.6	-13.0	-43.6	
2041.50	-7.8	V	3.0	40.7	1.0	-47.5	-13.0	-34.5	
2722.00	-11.6	V	3.0	41.6	1.0	-52.2	-13.0	-39.2	
1361.00	-18.0	H	3.0	40.7	1.0	-57.7	-13.0	-44.7	
2041.50	-9.4	H	3.0	40.7	1.0	-49.1	-13.0	-36.1	
2722.00	-11.7	H	3.0	41.6	1.0	-52.4	-13.0	-39.4	
High Ch, 693MHz									
1386.00	-16.7	V	3.0	40.7	1.0	-56.4	-13.0	-43.4	
2079.00	-11.8	V	3.0	40.7	1.0	-51.6	-13.0	-38.6	
2772.00	-11.7	V	3.0	41.7	1.0	-52.4	-13.0	-39.4	
1386.00	-17.6	H	3.0	40.7	1.0	-57.4	-13.0	-44.4	
2079.00	-13.2	H	3.0	40.7	1.0	-52.9	-13.0	-39.9	
2772.00	-11.7	H	3.0	41.7	1.0	-52.5	-13.0	-39.5	

5 MHz
QPSK
ANT A

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

Company: Samsung
Project #: 4790748041
Date: 2023-03-24
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, FF
Location: Chamber 1
Mode: LTE_QPSK Band 71 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 665.5MHz									
1331.00	-15.9	V	3.0	46.1	1.0	-61.0	-13.0	-48.0	
1996.50	-9.3	V	3.0	46.7	1.0	-55.1	-13.0	-42.1	
2662.00	-11.1	V	3.0	46.9	1.0	-57.0	-13.0	-44.0	
1331.00	-16.8	H	3.0	46.1	1.0	-61.9	-13.0	-48.9	
1996.50	-5.2	H	3.0	46.7	1.0	-51.0	-13.0	-38.0	
2662.00	-11.3	H	3.0	46.9	1.0	-57.3	-13.0	-44.3	
Mid Ch, 680.5MHz									
1361.00	-15.7	V	3.0	46.2	1.0	-60.9	-13.0	-47.9	
2041.50	1.1	V	3.0	46.7	1.0	-44.7	-13.0	-31.7	
2722.00	-10.9	V	3.0	47.0	1.0	-56.9	-13.0	-43.9	
1361.00	-15.7	H	3.0	46.2	1.0	-60.9	-13.0	-47.9	
2041.50	5.3	H	3.0	46.7	1.0	-40.4	-13.0	-27.4	
2722.00	-11.1	H	3.0	47.0	1.0	-57.1	-13.0	-44.1	
High Ch, 695.5MHz									
1391.00	-15.6	V	3.0	46.2	1.0	-60.8	-13.0	-47.8	
2086.50	-12.0	V	3.0	46.8	1.0	-57.8	-13.0	-44.8	
2782.00	-10.6	V	3.0	47.0	1.0	-56.6	-13.0	-43.6	
1391.00	-16.7	H	3.0	46.2	1.0	-61.9	-13.0	-48.9	
2086.50	-11.3	H	3.0	46.8	1.0	-57.0	-13.0	-44.0	
2782.00	-10.6	H	3.0	47.0	1.0	-56.6	-13.0	-43.6	

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NR Band n7

30 MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-12
Test Engineer: 26087
Configuration: EUT / AC Adapter, Z-Position, Open
Location: Chamber 1
Mode: 5G NR_QPSK NR n7 Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2515MHz									
5030.00	-14.1	V	3.0	46.2	1.0	-59.4	-25.0	-34.4	
7545.00	-13.3	V	3.0	45.5	1.0	-57.8	-25.0	-32.8	
10060.00	-12.6	V	3.0	45.6	1.0	-57.2	-25.0	-32.2	
5030.00	-13.3	H	3.0	46.2	1.0	-58.5	-25.0	-33.5	
7545.00	-12.2	H	3.0	45.5	1.0	-56.7	-25.0	-31.7	
10060.00	-12.5	H	3.0	45.6	1.0	-57.1	-25.0	-32.1	
Mid Ch, 2535MHz									
5070.00	-14.6	V	3.0	46.2	1.0	-59.8	-25.0	-34.8	
7605.00	-11.5	V	3.0	45.6	1.0	-56.0	-25.0	-31.0	
10140.00	-12.7	V	3.0	45.7	1.0	-57.3	-25.0	-32.3	
5070.00	-12.8	H	3.0	46.2	1.0	-58.0	-25.0	-33.0	
7605.00	-11.1	H	3.0	45.6	1.0	-55.6	-25.0	-30.6	
10140.00	-12.4	H	3.0	45.7	1.0	-57.1	-25.0	-32.1	
High Ch, 2555MHz									
5110.00	-13.8	V	3.0	46.1	1.0	-58.9	-25.0	-33.9	
7665.00	-12.0	V	3.0	45.6	1.0	-56.6	-25.0	-31.6	
10220.00	-12.7	V	3.0	45.7	1.0	-57.4	-25.0	-32.4	
5110.00	-12.6	H	3.0	46.1	1.0	-57.8	-25.0	-32.8	
7665.00	-10.2	H	3.0	45.6	1.0	-54.8	-25.0	-29.8	
10220.00	-12.5	H	3.0	45.7	1.0	-57.3	-25.0	-32.3	

40 MHz
QPSK
ANT F
Tx Hopping

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

Company: SAMSUNG
Project #: 4790748041
Date: 2023-05-25
Test Engineer: 19568
Configuration: EUT / AC Adpater, Y-Position, HF
Location: Chamber 1
Mode: 5G NR_QPSK NR n7 Harmonics, 40MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2520MHz									
5040.00	-13.7	V	3.0	46.2	1.0	-58.9	-25.0	-33.9	
7560.00	-12.1	V	3.0	45.5	1.0	-56.7	-25.0	-31.7	
10080.00	-10.5	V	3.0	45.6	1.0	-55.1	-25.0	-30.1	
5040.00	-13.5	H	3.0	46.2	1.0	-58.7	-25.0	-33.7	
7560.00	-12.5	H	3.0	45.5	1.0	-57.1	-25.0	-32.1	
10080.00	-10.4	H	3.0	45.6	1.0	-55.0	-25.0	-30.0	
Mid Ch, 2535MHz									
5070.00	-13.8	V	3.0	46.2	1.0	-59.0	-25.0	-34.0	
7605.00	-11.7	V	3.0	45.6	1.0	-56.2	-25.0	-31.2	
10140.00	-10.6	V	3.0	45.7	1.0	-55.3	-25.0	-30.3	
5070.00	-13.3	H	3.0	46.2	1.0	-58.5	-25.0	-33.5	
7605.00	-11.4	H	3.0	45.6	1.0	-56.0	-25.0	-31.0	
10140.00	-10.0	H	3.0	45.7	1.0	-54.7	-25.0	-29.7	
High Ch, 2550MHz									
5100.00	-14.6	V	3.0	46.2	1.0	-59.7	-25.0	-34.7	
7650.00	-12.0	V	3.0	45.6	1.0	-56.6	-25.0	-31.6	
10200.00	-10.8	V	3.0	45.7	1.0	-55.5	-25.0	-30.5	
5100.00	-14.0	H	3.0	46.2	1.0	-59.1	-25.0	-34.1	
7650.00	-11.7	H	3.0	45.6	1.0	-56.3	-25.0	-31.3	
10200.00	-10.0	H	3.0	45.7	1.0	-54.7	-25.0	-29.7	

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NR Band n12

15 MHz
QPSK
ANT A+B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-04
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: 5G NR_QPSK NR n12 Harmonics, 15MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5MHz									
1413.00	-16.2	V	3.0	40.7	1.0	-55.9	-13.0	-42.9	
2119.50	-12.3	V	3.0	40.8	1.0	-52.1	-13.0	-39.1	
2826.00	-11.3	V	3.0	41.8	1.0	-52.1	-13.0	-39.1	
1413.00	-17.3	H	3.0	40.7	1.0	-57.0	-13.0	-44.0	
2119.50	-11.6	H	3.0	40.8	1.0	-51.3	-13.0	-38.3	
2826.00	-11.7	H	3.0	41.8	1.0	-52.5	-13.0	-39.5	
Mid Ch, 707.5MHz									
1415.00	-16.3	V	3.0	40.7	1.0	-56.0	-13.0	-43.0	
2122.50	-12.1	V	3.0	40.8	1.0	-51.9	-13.0	-38.9	
2830.00	-11.2	V	3.0	41.8	1.0	-52.0	-13.0	-39.0	
1415.00	-17.3	H	3.0	40.7	1.0	-57.0	-13.0	-44.0	
2122.50	-11.0	H	3.0	40.8	1.0	-50.8	-13.0	-37.8	
2830.00	-11.2	H	3.0	41.8	1.0	-52.0	-13.0	-39.0	
High Ch, 708.5MHz									
1417.00	-16.2	V	3.0	40.7	1.0	-56.0	-13.0	-43.0	
2125.50	-12.2	V	3.0	40.8	1.0	-52.0	-13.0	-39.0	
2834.00	-11.2	V	3.0	41.8	1.0	-52.0	-13.0	-39.0	
1417.00	-17.4	H	3.0	40.7	1.0	-57.1	-13.0	-44.1	
2125.50	-11.9	H	3.0	40.8	1.0	-51.7	-13.0	-38.7	
2834.00	-11.2	H	3.0	41.8	1.0	-52.0	-13.0	-39.0	

15 MHz
QPSK
ANT A

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

Company: Samsung
Project #: 4790748041
Date: 2023-03-30
Test Engineer: 24542
Configuration: EUT / AC Adapter, Y-Position, FF
Location: Chamber 1
Mode: 5G NR_QPSK NR n12 Harmonics, 15MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5MHz									
1413.00	-15.5	V	3.0	46.2	1.0	-60.7	-13.0	-47.7	
2119.50	0.0	V	3.0	46.8	1.0	-45.7	-13.0	-32.7	
2826.00	-10.6	V	3.0	47.0	1.0	-56.6	-13.0	-43.6	
1413.00	-16.8	H	3.0	46.2	1.0	-62.1	-13.0	-49.1	
2119.50	1.4	H	3.0	46.8	1.0	-44.4	-13.0	-31.4	
2826.00	-10.5	H	3.0	47.0	1.0	-56.5	-13.0	-43.5	
Mid Ch, 707.5MHz									
1415.00	-15.5	V	3.0	46.2	1.0	-60.7	-13.0	-47.7	
2122.50	-6.9	V	3.0	46.8	1.0	-52.7	-13.0	-39.7	
2830.00	-10.5	V	3.0	47.0	1.0	-56.5	-13.0	-43.5	
1415.00	-16.9	H	3.0	46.2	1.0	-62.1	-13.0	-49.1	
2122.50	-1.0	H	3.0	46.8	1.0	-46.8	-13.0	-33.8	
2830.00	-10.7	H	3.0	47.0	1.0	-56.7	-13.0	-43.7	
High Ch, 708.5MHz									
1417.00	-15.4	V	3.0	46.2	1.0	-60.6	-13.0	-47.6	
2125.50	-6.6	V	3.0	46.8	1.0	-52.3	-13.0	-39.3	
2834.00	-10.7	V	3.0	47.0	1.0	-56.7	-13.0	-43.7	
1417.00	-16.9	H	3.0	46.2	1.0	-62.1	-13.0	-49.1	
2125.50	-1.6	H	3.0	46.8	1.0	-47.4	-13.0	-34.4	
2834.00	-10.8	H	3.0	47.0	1.0	-56.8	-13.0	-43.8	

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NR Band n30

10 MHz

QPSK

ANT B

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

Company:	Samsung
Project #:	4790748041
Date:	2023-05-25
Test Engineer:	26087
Configuration:	EUT / AC Adapter, Z-Position, HF
Location:	Chamber 2
Mode:	5G NR_QPSK NR n30 Harmonics, 10MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, 2310MHz									
4620.00	-25.5	V	3.0	42.5	1.0	-67.0	-40.0	-27.0	
6930.00	-9.9	V	3.0	42.7	1.0	-51.6	-40.0	-11.6	
9240.00	-23.3	V	3.0	41.5	1.0	-63.9	-40.0	-23.9	
4620.00	-25.5	H	3.0	42.5	1.0	-67.0	-40.0	-27.0	
6930.00	-14.0	H	3.0	42.7	1.0	-55.7	-40.0	-15.7	
9240.00	-23.1	H	3.0	41.5	1.0	-63.7	-40.0	-23.7	

10 MHz

QPSK

ANT F

Tx Hopping

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

Company:	Samsung
Project #:	4790748041
Date:	2023-05-25
Test Engineer:	26087
Configuration:	EUT / AC Adapter, Z-Position, HF
Location:	Chamber 2
Mode:	5G NR_QPSK NR n30 Harmonics, 10MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Mid Ch, 2310MHz									
4620.00	-25.5	V	3.0	42.5	1.0	-67.0	-40.0	-27.0	
6930.00	-9.9	V	3.0	42.7	1.0	-51.6	-40.0	-11.6	
9240.00	-23.3	V	3.0	41.5	1.0	-63.9	-40.0	-23.9	
4620.00	-25.5	H	3.0	42.5	1.0	-67.0	-40.0	-27.0	
6930.00	-14.0	H	3.0	42.7	1.0	-55.7	-40.0	-15.7	
9240.00	-23.1	H	3.0	41.5	1.0	-63.7	-40.0	-23.7	

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NR Band n41(PC2) (ANT B)

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

Company:	Samsung
Project #:	4790748041
Date:	2023-05-03
Test Engineer:	25770
Configuration:	EUT / AC Adapter, Y-Position, Open
Location:	Chamber 1
Mode:	5G NR_QPSK NR n41 Harmonics, 30MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

30 MHz
QPSK
ANT B

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2511MHz									
5022.00	-10.6	V	3.0	46.2	1.0	-55.9	-25.0	-30.9	
7533.00	-5.1	V	3.0	45.5	1.0	-49.7	-25.0	-24.7	
10044.00	-9.8	V	3.0	45.6	1.0	-54.4	-25.0	-29.4	
5022.00	-11.2	H	3.0	46.2	1.0	-56.5	-25.0	-31.5	
7533.00	-7.1	H	3.0	45.5	1.0	-51.7	-25.0	-26.7	
10044.00	-9.7	H	3.0	45.6	1.0	-54.3	-25.0	-29.3	
Mid Ch, 2592.99MHz									
5185.98	-12.3	V	3.0	46.1	1.0	-57.4	-25.0	-32.4	
7778.97	-7.7	V	3.0	45.6	1.0	-52.3	-25.0	-27.3	
10371.96	-9.6	V	3.0	45.9	1.0	-54.5	-25.0	-29.5	
5185.98	-11.3	H	3.0	46.1	1.0	-56.3	-25.0	-31.3	
7778.97	-8.9	H	3.0	45.6	1.0	-53.5	-25.0	-28.5	
10371.96	-9.4	H	3.0	45.9	1.0	-54.3	-25.0	-29.3	
High Ch, 2675MHz									
5350.00	-12.5	V	3.0	45.9	1.0	-57.5	-25.0	-32.5	
8025.00	-5.8	V	3.0	45.6	1.0	-50.4	-25.0	-25.4	
10700.00	-9.0	V	3.0	46.2	1.0	-54.1	-25.0	-29.1	
5350.00	-11.7	H	3.0	45.9	1.0	-56.6	-25.0	-31.6	
8025.00	-4.0	H	3.0	45.6	1.0	-48.6	-25.0	-23.6	
10700.00	-8.8	H	3.0	46.2	1.0	-53.9	-25.0	-28.9	

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40 MHz
ANT F
SRS1

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-19
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, HF
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 40MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2516.01MHz									
5032.02	-21.4	V	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7548.03	-19.1	V	3.0	42.4	1.0	-60.5	-25.0	-35.5	
10064.04	-16.0	V	3.0	40.9	1.0	-55.9	-25.0	-30.9	
5032.02	-21.2	H	3.0	42.8	1.0	-63.0	-25.0	-38.0	
7548.03	-19.0	H	3.0	42.4	1.0	-60.4	-25.0	-35.4	
10064.04	-15.8	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2592.99MHz									
5185.98	-21.4	V	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7778.97	-19.3	V	3.0	42.3	1.0	-60.6	-25.0	-35.6	
10371.96	-15.7	V	3.0	41.0	1.0	-55.7	-25.0	-30.7	
5185.98	-21.2	H	3.0	42.8	1.0	-63.0	-25.0	-38.0	
7778.97	-19.1	H	3.0	42.3	1.0	-60.4	-25.0	-35.4	
10371.96	-15.5	H	3.0	41.0	1.0	-55.5	-25.0	-30.5	
High Ch, 2670MHz									
5340.00	-20.7	V	3.0	42.8	1.0	-62.5	-25.0	-37.5	
8010.00	-19.2	V	3.0	42.2	1.0	-60.3	-25.0	-35.3	
10680.00	-14.8	V	3.0	41.1	1.0	-55.0	-25.0	-30.0	
5340.00	-20.6	H	3.0	42.8	1.0	-62.4	-25.0	-37.4	
8010.00	-18.9	H	3.0	42.2	1.0	-60.1	-25.0	-35.1	
10680.00	-14.6	H	3.0	41.1	1.0	-54.8	-25.0	-29.8	

10 MHz
ANT C
SRS2

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-19
Test Engineer: 25770
Configuration: EUT / AC Adapter, Z-Position, FF
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501.01MHz									
5002.02	-21.5	V	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7503.03	-19.2	V	3.0	42.4	1.0	-60.7	-25.0	-35.7	
10004.04	-16.2	V	3.0	40.9	1.0	-56.0	-25.0	-31.0	
5002.02	-20.0	H	3.0	42.8	1.0	-61.8	-25.0	-36.8	
7503.03	-19.2	H	3.0	42.4	1.0	-60.6	-25.0	-35.6	
10004.04	-15.8	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2592.99MHz									
5185.98	-21.3	V	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7778.97	-19.3	V	3.0	42.3	1.0	-60.6	-25.0	-35.6	
10371.96	-15.8	V	3.0	41.0	1.0	-55.8	-25.0	-30.8	
5185.98	-20.1	H	3.0	42.8	1.0	-62.0	-25.0	-37.0	
7778.97	-19.2	H	3.0	42.3	1.0	-60.5	-25.0	-35.5	
10371.96	-15.5	H	3.0	41.0	1.0	-55.5	-25.0	-30.5	
High Ch, 2685MHz									
5370.00	-20.4	V	3.0	42.9	1.0	-62.3	-25.0	-37.3	
8055.00	-19.1	V	3.0	42.2	1.0	-60.3	-25.0	-35.3	
10740.00	-14.7	V	3.0	41.2	1.0	-54.9	-25.0	-29.9	
5370.00	-20.1	H	3.0	42.9	1.0	-62.0	-25.0	-37.0	
8055.00	-19.0	H	3.0	42.2	1.0	-60.1	-25.0	-35.1	
10740.00	-14.5	H	3.0	41.2	1.0	-54.7	-25.0	-29.7	

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30 MHz
ANT H
SRS3

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-20
Test Engineer: 26087
Configuration: EUT / AC Adpater, Y-Position, HF
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2511.01MHz									
5022.02	-21.0	V	3.0	42.8	1.0	-62.8	-25.0	-37.8	
7533.03	-18.7	V	3.0	42.4	1.0	-60.1	-25.0	-35.1	
10044.04	-15.8	V	3.0	40.9	1.0	-55.7	-25.0	-30.7	
5022.02	-20.9	H	3.0	42.8	1.0	-62.7	-25.0	-37.7	
7533.03	-18.8	H	3.0	42.4	1.0	-60.2	-25.0	-35.2	
10044.04	-15.6	H	3.0	40.9	1.0	-55.5	-25.0	-30.5	
Mid Ch, 2592.99MHz									
5185.98	-20.7	V	3.0	42.8	1.0	-62.5	-25.0	-37.5	
7778.97	-19.0	V	3.0	42.3	1.0	-60.3	-25.0	-35.3	
10371.96	-15.2	V	3.0	41.0	1.0	-55.2	-25.0	-30.2	
5185.98	-20.8	H	3.0	42.8	1.0	-62.6	-25.0	-37.6	
7778.97	-18.8	H	3.0	42.3	1.0	-60.1	-25.0	-35.1	
10371.96	-15.1	H	3.0	41.0	1.0	-55.2	-25.0	-30.2	
High Ch, 2675MHz									
5350.00	-20.3	V	3.0	42.8	1.0	-62.2	-25.0	-37.2	
8025.00	-18.5	V	3.0	42.2	1.0	-59.7	-25.0	-34.7	
10700.00	-14.5	V	3.0	41.2	1.0	-54.6	-25.0	-29.6	
5350.00	-20.2	H	3.0	42.8	1.0	-62.0	-25.0	-37.0	
8025.00	-18.3	H	3.0	42.2	1.0	-59.5	-25.0	-34.5	
10700.00	-14.5	H	3.0	41.2	1.0	-54.6	-25.0	-29.6	

60 MHz
QPSK
ANT B
NSA

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-14
Test Engineer: 19568
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 1
Mode: 5G NR_QPSK NR n41 Harmonics, 60MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2526.01MHz									
5052.02	-12.9	V	3.0	46.2	1.0	-58.1	-25.0	-33.1	
7578.03	-11.1	V	3.0	45.5	1.0	-55.6	-25.0	-30.6	
10104.04	-9.9	V	3.0	45.6	1.0	-54.5	-25.0	-29.5	
5052.02	-13.0	H	3.0	46.2	1.0	-58.2	-25.0	-33.2	
7578.03	-11.2	H	3.0	45.5	1.0	-55.8	-25.0	-30.8	
10104.04	-9.8	H	3.0	45.6	1.0	-54.4	-25.0	-29.4	
Mid Ch, 2592.99MHz									
5185.98	-12.9	V	3.0	46.1	1.0	-58.0	-25.0	-33.0	
7778.97	-10.9	V	3.0	45.6	1.0	-55.4	-25.0	-30.4	
10371.96	-9.4	V	3.0	45.9	1.0	-54.3	-25.0	-29.3	
5185.98	-12.5	H	3.0	46.1	1.0	-57.6	-25.0	-32.6	
7778.97	-10.9	H	3.0	45.6	1.0	-55.5	-25.0	-30.5	
10371.96	-9.5	H	3.0	45.9	1.0	-54.3	-25.0	-29.3	
High Ch, 2660MHz									
5320.00	-12.6	V	3.0	46.0	1.0	-57.6	-25.0	-32.6	
7980.00	-10.9	V	3.0	45.6	1.0	-55.5	-25.0	-30.5	
10640.00	-9.1	V	3.0	46.1	1.0	-54.2	-25.0	-29.2	
5320.00	-12.4	H	3.0	46.0	1.0	-57.4	-25.0	-32.4	
7980.00	-11.1	H	3.0	45.6	1.0	-55.7	-25.0	-30.7	
10640.00	-9.1	H	3.0	46.1	1.0	-54.2	-25.0	-29.2	

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30 MHz
ANT F
SRS1
NSA

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-20
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2511.01MHz									
5022.02	-21.6	V	3.0	42.8	1.0	-63.4	-25.0	-38.4	
7533.03	-16.4	V	3.0	42.4	1.0	-57.9	-25.0	-32.9	
10044.04	-16.1	V	3.0	40.9	1.0	-55.9	-25.0	-30.9	
5022.02	-21.4	H	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7533.03	-17.3	H	3.0	42.4	1.0	-58.7	-25.0	-33.7	
10044.04	-15.9	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2592.99MHz									
5185.98	-21.5	V	3.0	42.8	1.0	-63.3	-25.0	-38.3	
7778.97	-16.8	V	3.0	42.3	1.0	-58.1	-25.0	-33.1	
10371.96	-15.7	V	3.0	41.0	1.0	-55.7	-25.0	-30.7	
5185.98	-21.4	H	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7778.97	-17.0	H	3.0	42.3	1.0	-58.3	-25.0	-33.3	
10371.96	-15.5	H	3.0	41.0	1.0	-55.6	-25.0	-30.6	
High Ch, 2675MHz									
5350.00	-20.6	V	3.0	42.8	1.0	-62.5	-25.0	-37.5	
8025.00	-17.9	V	3.0	42.2	1.0	-59.1	-25.0	-34.1	
10700.00	-14.7	V	3.0	41.2	1.0	-54.9	-25.0	-29.9	
5350.00	-20.6	H	3.0	42.8	1.0	-62.5	-25.0	-37.5	
8025.00	-18.1	H	3.0	42.2	1.0	-59.3	-25.0	-34.3	
10700.00	-14.5	H	3.0	41.2	1.0	-54.7	-25.0	-29.7	

10 MHz
ANT C
SRS2
NSA

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-21
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2511.01MHz									
5022.02	-21.6	V	3.0	42.8	1.0	-63.4	-25.0	-38.4	
7533.03	-19.3	V	3.0	42.4	1.0	-60.7	-25.0	-35.7	
10044.04	-15.9	V	3.0	40.9	1.0	-55.8	-25.0	-30.8	
5022.02	-21.4	H	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7533.03	-19.2	H	3.0	42.4	1.0	-60.7	-25.0	-35.7	
10044.04	-15.8	H	3.0	40.9	1.0	-55.6	-25.0	-30.6	
Mid Ch, 2592.99MHz									
5185.98	-21.5	V	3.0	42.8	1.0	-63.3	-25.0	-38.3	
7778.97	-19.4	V	3.0	42.3	1.0	-60.7	-25.0	-35.7	
10371.96	-15.7	V	3.0	41.0	1.0	-55.7	-25.0	-30.7	
5185.98	-21.3	H	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7778.97	-19.3	H	3.0	42.3	1.0	-60.6	-25.0	-35.6	
10371.96	-15.6	H	3.0	41.0	1.0	-55.6	-25.0	-30.6	
High Ch, 2675MHz									
5350.00	-20.7	V	3.0	42.8	1.0	-62.6	-25.0	-37.6	
8025.00	-19.0	V	3.0	42.2	1.0	-60.2	-25.0	-35.2	
10700.00	-14.7	V	3.0	41.2	1.0	-54.9	-25.0	-29.9	
5350.00	-20.7	H	3.0	42.8	1.0	-62.5	-25.0	-37.5	
8025.00	-18.8	H	3.0	42.2	1.0	-60.0	-25.0	-35.0	
10700.00	-14.6	H	3.0	41.2	1.0	-54.7	-25.0	-29.7	

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100 MHz

ANT H

SRS3

NSA

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-21
Test Engineer: 24542
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 100MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2546.01MHz									
5092.02	-21.1	V	3.0	42.8	1.0	-62.9	-25.0	-37.9	
7638.03	-18.8	V	3.0	42.4	1.0	-60.1	-25.0	-35.1	
10184.04	-15.8	V	3.0	40.9	1.0	-55.7	-25.0	-30.7	
5092.02	-21.0	H	3.0	42.8	1.0	-62.8	-25.0	-37.8	
7638.03	-18.7	H	3.0	42.4	1.0	-60.0	-25.0	-35.0	
10184.04	-15.4	H	3.0	40.9	1.0	-55.3	-25.0	-30.3	
Mid Ch, 2592.99MHz									
5185.98	-20.8	V	3.0	42.8	1.0	-62.6	-25.0	-37.6	
7778.97	-18.9	V	3.0	42.3	1.0	-60.2	-25.0	-35.2	
10371.96	-15.3	V	3.0	41.0	1.0	-55.3	-25.0	-30.3	
5185.98	-20.6	H	3.0	42.8	1.0	-62.4	-25.0	-37.4	
7778.97	-18.8	H	3.0	42.3	1.0	-60.1	-25.0	-35.1	
10371.96	-15.2	H	3.0	41.0	1.0	-55.2	-25.0	-30.2	
High Ch, 2640MHz									
5280.00	-20.8	V	3.0	42.8	1.0	-62.6	-25.0	-37.6	
7920.00	-18.5	V	3.0	42.2	1.0	-59.7	-25.0	-34.7	
10560.00	-14.7	V	3.0	41.1	1.0	-54.8	-25.0	-29.8	
5280.00	-20.7	H	3.0	42.8	1.0	-62.5	-25.0	-37.5	
7920.00	-18.5	H	3.0	42.2	1.0	-59.7	-25.0	-34.7	
10560.00	-14.5	H	3.0	41.1	1.0	-54.6	-25.0	-29.6	

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NR Band n41(PC2) (ANT F) Upper

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

Company:	Samsung
Project #:	4790748041
Date:	2023-04-23
Test Engineer:	25770
Configuration:	EUT / AC Adapter, Z-Position, Open
Location:	Chamber 2
Mode:	5G NR_QPSK NR n41 Harmonics, 10MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

10 MHz
QPSK
ANT F

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2501.01MHz									
5002.02	-21.8	V	3.0	42.8	1.0	-63.6	-25.0	-38.6	
7503.03	-19.2	V	3.0	42.4	1.0	-60.6	-25.0	-35.6	
10004.04	-16.1	V	3.0	40.9	1.0	-55.9	-25.0	-30.9	
5002.02	-21.5	H	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7503.03	-19.1	H	3.0	42.4	1.0	-60.5	-25.0	-35.5	
10004.04	-15.9	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2592.99MHz									
5185.98	-21.4	V	3.0	42.8	1.0	-63.2	-25.0	-38.2	
7778.97	-19.3	V	3.0	42.3	1.0	-60.6	-25.0	-35.6	
10371.96	-15.7	V	3.0	41.0	1.0	-55.8	-25.0	-30.8	
5185.98	-21.2	H	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7778.97	-19.2	H	3.0	42.3	1.0	-60.5	-25.0	-35.5	
10371.96	-15.5	H	3.0	41.0	1.0	-55.6	-25.0	-30.6	
High Ch, 2685MHz									
5370.00	-20.7	V	3.0	42.9	1.0	-62.5	-25.0	-37.5	
8055.00	-19.0	V	3.0	42.2	1.0	-60.2	-25.0	-35.2	
10740.00	-14.7	V	3.0	41.2	1.0	-54.9	-25.0	-29.9	
5370.00	-20.6	H	3.0	42.9	1.0	-62.5	-25.0	-37.5	
8055.00	-19.0	H	3.0	42.2	1.0	-60.1	-25.0	-35.1	
10740.00	-14.5	H	3.0	41.2	1.0	-54.7	-25.0	-29.7	

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-19
Test Engineer: 26087
Configuration: EUT / AC Adapter, Z-Position, FF
Location: Chamber 2
Mode: 5G NR n41(SRS) Harmonics, 15MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

15 MHz
ANT B
SRS1

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2503.51MHz									
5007.02	-21.6	V	3.0	42.8	1.0	-63.3	-25.0	-38.3	
7510.53	-18.4	V	3.0	42.4	1.0	-59.9	-25.0	-34.9	
10014.04	-16.1	V	3.0	40.9	1.0	-56.0	-25.0	-31.0	
5007.02	-21.1	H	3.0	42.8	1.0	-62.8	-25.0	-37.8	
7510.53	-17.2	H	3.0	42.4	1.0	-58.7	-25.0	-33.7	
10014.04	-15.9	H	3.0	40.9	1.0	-55.7	-25.0	-30.7	
Mid Ch, 2592.99MHz									
5185.98	-21.2	V	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7778.97	-17.8	V	3.0	42.3	1.0	-59.1	-25.0	-34.1	
10371.96	-15.7	V	3.0	41.0	1.0	-55.7	-25.0	-30.7	
5185.98	-20.3	H	3.0	42.8	1.0	-62.1	-25.0	-37.1	
7778.97	-16.8	H	3.0	42.3	1.0	-58.1	-25.0	-33.1	
10371.96	-15.5	H	3.0	41.0	1.0	-55.5	-25.0	-30.5	
High Ch, 2682.5MHz									
5365.00	-20.1	V	3.0	42.9	1.0	-62.0	-25.0	-37.0	
8047.50	-14.8	V	3.0	42.2	1.0	-56.0	-25.0	-31.0	
10730.00	-14.6	V	3.0	41.2	1.0	-54.8	-25.0	-29.8	
5365.00	-19.3	H	3.0	42.9	1.0	-61.2	-25.0	-36.2	
8047.50	-15.0	H	3.0	42.2	1.0	-56.2	-25.0	-31.2	
10730.00	-14.4	H	3.0	41.2	1.0	-54.6	-25.0	-29.6	

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-21
Test Engineer: 24542
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 2
Mode: 5G NR_QPSK NR n41 Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

30 MHz
ANT C
SRS2

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2511.01MHz									
5022.02	-21.3	V	3.0	42.8	1.0	-63.0	-25.0	-38.0	
7533.03	-18.7	V	3.0	42.4	1.0	-60.1	-25.0	-35.1	
10044.04	-15.9	V	3.0	40.9	1.0	-55.7	-25.0	-30.7	
5022.02	-21.0	H	3.0	42.8	1.0	-62.8	-25.0	-37.8	
7533.03	-18.5	H	3.0	42.4	1.0	-59.9	-25.0	-34.9	
10044.04	-15.6	H	3.0	40.9	1.0	-55.4	-25.0	-30.4	
Mid Ch, 2592.99MHz									
5185.98	-20.9	V	3.0	42.8	1.0	-62.7	-25.0	-37.7	
7778.97	-19.0	V	3.0	42.3	1.0	-60.3	-25.0	-35.3	
10371.96	-15.4	V	3.0	41.0	1.0	-55.4	-25.0	-30.4	
5185.98	-20.8	H	3.0	42.8	1.0	-62.6	-25.0	-37.6	
7778.97	-18.9	H	3.0	42.3	1.0	-60.2	-25.0	-35.2	
10371.96	-15.2	H	3.0	41.0	1.0	-55.2	-25.0	-30.2	
High Ch, 2675MHz									
5350.00	-20.3	V	3.0	42.8	1.0	-62.1	-25.0	-37.1	
8025.00	-18.6	V	3.0	42.2	1.0	-59.8	-25.0	-34.8	
10700.00	-14.6	V	3.0	41.2	1.0	-54.7	-25.0	-29.7	
5350.00	-20.4	H	3.0	42.8	1.0	-62.2	-25.0	-37.2	
8025.00	-18.4	H	3.0	42.2	1.0	-59.6	-25.0	-34.6	
10700.00	-14.5	H	3.0	41.2	1.0	-54.7	-25.0	-29.7	

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80 MHz

ANT H

SRS3

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-19
Test Engineer: 26087
Configuration: EUT / AC Adapter, Z-Position, FF
Location: Chamber 2
Mode: 5G NR_QPSK NR n41 Harmonics, 80MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 2536.01MHz									
5072.02	-21.1	V	3.0	42.8	1.0	-62.9	-25.0	-37.9	
7608.03	-19.1	V	3.0	42.4	1.0	-60.4	-25.0	-35.4	
10144.04	-16.0	V	3.0	40.9	1.0	-56.0	-25.0	-31.0	
5072.02	-20.1	H	3.0	42.8	1.0	-61.8	-25.0	-36.8	
7608.03	-19.0	H	3.0	42.4	1.0	-60.4	-25.0	-35.4	
10144.04	-15.9	H	3.0	40.9	1.0	-55.8	-25.0	-30.8	
Mid Ch, 2592.99MHz									
5185.98	-21.3	V	3.0	42.8	1.0	-63.1	-25.0	-38.1	
7778.97	-19.4	V	3.0	42.3	1.0	-60.7	-25.0	-35.7	
10371.96	-15.8	V	3.0	41.0	1.0	-55.8	-25.0	-30.8	
5185.98	-20.7	H	3.0	42.8	1.0	-62.5	-25.0	-37.5	
7778.97	-19.3	H	3.0	42.3	1.0	-60.6	-25.0	-35.6	
10371.96	-15.5	H	3.0	41.0	1.0	-55.6	-25.0	-30.6	
High Ch, 2650MHz									
5300.00	-20.6	V	3.0	42.8	1.0	-62.4	-25.0	-37.4	
7950.00	-18.9	V	3.0	42.2	1.0	-60.1	-25.0	-35.1	
10600.00	-15.0	V	3.0	41.1	1.0	-55.1	-25.0	-30.1	
5300.00	-20.2	H	3.0	42.8	1.0	-62.0	-25.0	-37.0	
7950.00	-18.7	H	3.0	42.2	1.0	-59.9	-25.0	-34.9	
10600.00	-14.8	H	3.0	41.1	1.0	-54.9	-25.0	-29.9	

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NR Band n66

10 MHz
QPSK
ANT B

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-03
Test Engineer: 24542
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 1
Mode: 5G NR_QPSK NR n66 Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1715MHz									
3430.00	-8.6	V	3.0	46.4	1.0	-54.0	-13.0	-41.0	
5145.00	-7.4	V	3.0	46.1	1.0	-52.5	-13.0	-39.5	
6860.00	-4.3	V	3.0	45.5	1.0	-48.8	-13.0	-35.8	
3430.00	-8.4	H	3.0	46.4	1.0	-53.8	-13.0	-40.8	
5145.00	-7.3	H	3.0	46.1	1.0	-52.5	-13.0	-39.5	
6860.00	-4.5	H	3.0	45.5	1.0	-49.0	-13.0	-36.0	
Mid Ch, 1745MHz									
3490.00	-8.3	V	3.0	46.3	1.0	-53.7	-13.0	-40.7	
5235.00	-7.2	V	3.0	46.0	1.0	-52.2	-13.0	-39.2	
6980.00	-4.1	V	3.0	45.5	1.0	-48.6	-13.0	-35.6	
3490.00	-8.1	H	3.0	46.3	1.0	-53.5	-13.0	-40.5	
5235.00	-7.1	H	3.0	46.0	1.0	-52.1	-13.0	-39.1	
6980.00	-4.4	H	3.0	45.5	1.0	-48.9	-13.0	-35.9	
High Ch, 1775MHz									
3550.00	-8.1	V	3.0	46.3	1.0	-53.3	-13.0	-40.3	
5325.00	-6.9	V	3.0	46.0	1.0	-51.9	-13.0	-38.9	
7100.00	-1.7	V	3.0	45.5	1.0	-46.2	-13.0	-33.2	
3550.00	-7.8	H	3.0	46.3	1.0	-53.0	-13.0	-40.0	
5325.00	-6.6	H	3.0	46.0	1.0	-51.6	-13.0	-38.6	
7100.00	-4.2	H	3.0	45.5	1.0	-48.7	-13.0	-35.7	

25 MHz
QPSK
ANT F
Tx Hopping

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-03
Test Engineer: 24542
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 1
Mode: 5G NR_QPSK NR n66 Harmonics, 25MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1722.5MHz									
3445.00	-8.5	V	3.0	46.4	1.0	-53.9	-13.0	-40.9	
5167.50	-7.5	V	3.0	46.1	1.0	-52.6	-13.0	-39.6	
6890.00	-4.3	V	3.0	45.5	1.0	-48.7	-13.0	-35.7	
3445.00	-8.3	H	3.0	46.4	1.0	-53.7	-13.0	-40.7	
5167.50	-7.2	H	3.0	46.1	1.0	-52.3	-13.0	-39.3	
6890.00	-4.6	H	3.0	45.5	1.0	-49.0	-13.0	-36.0	
Mid Ch, 1745MHz									
3490.00	-8.4	V	3.0	46.3	1.0	-53.7	-13.0	-40.7	
5235.00	-7.2	V	3.0	46.0	1.0	-52.3	-13.0	-39.3	
6980.00	-4.1	V	3.0	45.5	1.0	-48.6	-13.0	-35.6	
3490.00	-8.0	H	3.0	46.3	1.0	-53.4	-13.0	-40.4	
5235.00	-5.2	H	3.0	46.0	1.0	-50.3	-13.0	-37.3	
6980.00	-4.6	H	3.0	45.5	1.0	-49.1	-13.0	-36.1	
High Ch, 1767.5MHz									
3535.00	-8.2	V	3.0	46.3	1.0	-53.4	-13.0	-40.4	
5302.50	-7.1	V	3.0	46.0	1.0	-52.1	-13.0	-39.1	
7070.00	-3.9	V	3.0	45.5	1.0	-48.4	-13.0	-35.4	
3535.00	-7.9	H	3.0	46.3	1.0	-53.1	-13.0	-40.1	
5302.50	-7.0	H	3.0	46.0	1.0	-52.0	-13.0	-39.0	
7070.00	-4.2	H	3.0	45.5	1.0	-48.7	-13.0	-35.7	

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NR Band n71

15 MHz
QPSK
ANT A+B

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-27
Test Engineer: 26087
Configuration: EUT / AC Adapter, Y-Position, FF
Location: Chamber 2
Mode: 5G NR_QPSK NR n71 Harmonics, 15MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 670.5MHz									
1341.00	-16.7	V	3.0	40.7	1.0	-56.4	-13.0	-43.4	
2011.50	-12.8	V	3.0	40.6	1.0	-52.5	-13.0	-39.5	
2682.00	-11.6	V	3.0	41.6	1.0	-52.2	-13.0	-39.2	
1341.00	-18.1	H	3.0	40.7	1.0	-57.9	-13.0	-44.9	
2011.50	-10.8	H	3.0	40.6	1.0	-50.4	-13.0	-37.4	
2682.00	-11.9	H	3.0	41.6	1.0	-52.4	-13.0	-39.4	
Mid Ch, 680.5MHz									
1361.00	-16.8	V	3.0	40.7	1.0	-56.5	-13.0	-43.5	
2041.50	-12.7	V	3.0	40.7	1.0	-52.3	-13.0	-39.3	
2722.00	-11.1	V	3.0	41.6	1.0	-51.7	-13.0	-38.7	
1361.00	-17.8	H	3.0	40.7	1.0	-57.5	-13.0	-44.5	
2041.50	-10.6	H	3.0	40.7	1.0	-50.2	-13.0	-37.2	
2722.00	-11.7	H	3.0	41.6	1.0	-52.4	-13.0	-39.4	
High Ch, 690.5MHz									
1381.00	-16.3	V	3.0	40.7	1.0	-56.0	-13.0	-43.0	
2071.50	-11.8	V	3.0	40.7	1.0	-51.5	-13.0	-38.5	
2762.00	-11.5	V	3.0	41.7	1.0	-52.2	-13.0	-39.2	
1381.00	-17.1	H	3.0	40.7	1.0	-56.8	-13.0	-43.8	
2071.50	-7.3	H	3.0	40.7	1.0	-47.0	-13.0	-34.0	
2762.00	-11.5	H	3.0	41.7	1.0	-52.2	-13.0	-39.2	

5 MHz
QPSK
ANT A

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

Company: Samsung
Project #: 4790748041
Date: 2023-03-29
Test Engineer: 24542
Configuration: EUT / Y-Position, FF
Location: Chamber 1
Mode: 5G NR_QPSK NR n71 Harmonics, 5MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 665.5MHz									
1331.00	-15.5	V	3.0	46.1	1.0	-60.7	-13.0	-47.7	
1996.50	-6.6	V	3.0	46.7	1.0	-52.3	-13.0	-39.3	
2662.00	-11.2	V	3.0	46.9	1.0	-57.1	-13.0	-44.1	
1331.00	-16.6	H	3.0	46.1	1.0	-61.7	-13.0	-48.7	
1996.50	-1.6	H	3.0	46.7	1.0	-47.4	-13.0	-34.4	
2662.00	-11.3	H	3.0	46.9	1.0	-57.3	-13.0	-44.3	
Mid Ch, 680.5MHz									
1361.00	-15.9	V	3.0	46.2	1.0	-61.1	-13.0	-48.1	
2041.50	1.9	V	3.0	46.7	1.0	-43.9	-13.0	-30.9	
2722.00	-11.0	V	3.0	47.0	1.0	-57.0	-13.0	-44.0	
1361.00	-17.3	H	3.0	46.2	1.0	-62.5	-13.0	-49.5	
2041.50	3.2	H	3.0	46.7	1.0	-42.5	-13.0	-29.5	
2722.00	-11.2	H	3.0	47.0	1.0	-57.1	-13.0	-44.1	
High Ch, 695.5MHz									
1391.00	-15.3	V	3.0	46.2	1.0	-60.5	-13.0	-47.5	
2086.50	-3.3	V	3.0	46.8	1.0	-49.1	-13.0	-36.1	
2782.00	-10.6	V	3.0	47.0	1.0	-56.6	-13.0	-43.6	
1391.00	-17.1	H	3.0	46.2	1.0	-62.3	-13.0	-49.3	
2086.50	-1.6	H	3.0	46.8	1.0	-47.3	-13.0	-34.3	
2782.00	-10.7	H	3.0	47.0	1.0	-56.7	-13.0	-43.7	

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NR Band n77(PC2, 3450 - 3550 MHz)

40 MHz
QPSK
ANT F

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

Company: Samsung
Project #: 4790748041
Date: 2023-05-13
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, Open
Location: Chamber 1
Mode: 5G NR_QPSK NR n77 LO Harmonics, 40MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3470.01MHz									
6940.02	-1.8	V	3.0	45.5	1.0	-46.3	-13.0	-33.3	
10410.03	1.9	V	3.0	45.9	1.0	-43.1	-13.0	-30.1	
13880.04	5.9	V	3.0	46.6	1.0	-39.7	-13.0	-26.7	
6940.02	-2.2	H	3.0	45.5	1.0	-46.7	-13.0	-33.7	
10410.03	1.8	H	3.0	45.9	1.0	-43.1	-13.0	-30.1	
13880.04	6.2	H	3.0	46.6	1.0	-39.3	-13.0	-26.3	
Mid Ch, 3499.98MHz									
6999.96	0.4	V	3.0	45.5	1.0	-44.0	-13.0	-31.0	
10499.94	2.2	V	3.0	46.0	1.0	-42.8	-13.0	-29.8	
13999.92	6.1	V	3.0	46.5	1.0	-39.4	-13.0	-26.4	
6999.96	-1.2	H	3.0	45.5	1.0	-45.7	-13.0	-32.7	
10499.94	2.5	H	3.0	46.0	1.0	-42.5	-13.0	-29.5	
13999.92	0.0	H	3.0	46.5	1.0	-45.5	-13.0	-32.5	
High ch, 3529.98MHz									
7059.96	-0.4	V	3.0	45.5	1.0	-44.9	-13.0	-31.9	
10589.94	2.3	V	3.0	46.1	1.0	-42.7	-13.0	-29.7	
14119.92	6.4	V	3.0	46.5	1.0	-39.1	-13.0	-26.1	
7059.96	-1.5	H	3.0	45.5	1.0	-46.0	-13.0	-33.0	
10589.94	2.5	H	3.0	46.1	1.0	-42.6	-13.0	-29.6	
14119.92	6.6	H	3.0	46.5	1.0	-38.9	-13.0	-25.9	

40 MHz
ANT D
SRS1

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-24
Test Engineer: 24542
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 2
Mode: 5G NR n77 LO(SRS) Harmonics, 40MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3470MHz									
6940.00	-5.4	V	3.0	42.7	1.0	-47.1	-13.0	-34.1	
10410.00	-0.8	V	3.0	41.0	1.0	-40.9	-13.0	-27.9	
13880.00	6.0	V	3.0	42.9	1.0	-35.9	-13.0	-22.9	
6940.00	-5.6	H	3.0	42.7	1.0	-47.2	-13.0	-34.2	
10410.00	-0.9	H	3.0	41.0	1.0	-40.9	-13.0	-27.9	
13880.00	6.0	H	3.0	42.9	1.0	-35.9	-13.0	-22.9	
Mid Ch, 3499.98MHz									
6999.96	-5.4	V	3.0	42.7	1.0	-47.1	-13.0	-34.1	
10499.94	-0.4	V	3.0	41.1	1.0	-40.4	-13.0	-27.4	
13999.92	6.2	V	3.0	43.0	1.0	-35.8	-13.0	-22.8	
6999.96	-5.5	H	3.0	42.7	1.0	-47.2	-13.0	-34.2	
10499.94	-0.4	H	3.0	41.1	1.0	-40.5	-13.0	-27.5	
13999.92	6.3	H	3.0	43.0	1.0	-35.7	-13.0	-22.7	
High Ch, 3529MHz									
7058.00	-5.2	V	3.0	42.7	1.0	-46.9	-13.0	-33.9	
10587.00	-0.5	V	3.0	41.1	1.0	-40.6	-13.0	-27.6	
14116.00	6.4	V	3.0	43.1	1.0	-35.7	-13.0	-22.7	
7058.00	-5.1	H	3.0	42.7	1.0	-46.8	-13.0	-33.8	
10587.00	-0.1	H	3.0	41.1	1.0	-40.2	-13.0	-27.2	
14116.00	6.5	H	3.0	43.1	1.0	-35.6	-13.0	-22.6	

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15 MHz

ANT G

SRS2

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

Company:	Samsung
Project #:	4790748041
Date:	2023-04-23
Test Engineer:	25770
Configuration:	EUT / AC Adapter, X-Position, Open
Location:	Chamber 1
Mode:	5G NR n77 LO(SRS) Harmonics, 15MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3457.5MHz									
6915.00	-4.2	V	3.0	45.5	1.0	-48.6	-13.0	-35.6	
10372.50	-0.8	V	3.0	45.9	1.0	-45.7	-13.0	-32.7	
13830.00	3.1	V	3.0	46.6	1.0	-42.4	-13.0	-29.4	
6915.00	-4.5	H	3.0	45.5	1.0	-48.9	-13.0	-35.9	
10372.50	-0.7	H	3.0	45.9	1.0	-45.6	-13.0	-32.6	
13830.00	3.2	H	3.0	46.6	1.0	-42.4	-13.0	-29.4	
Mid Ch, 3499.98MHz									
6999.96	-4.1	V	3.0	45.5	1.0	-48.6	-13.0	-35.6	
10499.94	-0.4	V	3.0	46.0	1.0	-45.3	-13.0	-32.3	
13999.92	3.3	V	3.0	46.5	1.0	-42.2	-13.0	-29.2	
6999.96	-4.6	H	3.0	45.5	1.0	-49.1	-13.0	-36.1	
10499.94	-0.3	H	3.0	46.0	1.0	-45.3	-13.0	-32.3	
13999.92	3.4	H	3.0	46.5	1.0	-42.2	-13.0	-29.2	
High Ch, 3542.52MHz									
7085.04	-4.1	V	3.0	45.5	1.0	-48.6	-13.0	-35.6	
10627.56	-0.3	V	3.0	46.1	1.0	-45.4	-13.0	-32.4	
14170.08	3.6	V	3.0	46.5	1.0	-41.8	-13.0	-28.8	
7085.04	-3.9	H	3.0	45.5	1.0	-48.4	-13.0	-35.4	
10627.56	-0.3	H	3.0	46.1	1.0	-45.4	-13.0	-32.4	
14170.08	3.7	H	3.0	46.5	1.0	-41.7	-13.0	-28.7	

40 MHz

ANT A

SRS3

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

Company:	Samsung
Project #:	4790748041
Date:	2023-04-23
Test Engineer:	25770
Configuration:	EUT / AC Adapter, X-Position, Open
Location:	Chamber 1
Mode:	5G NR n77 LO(SRS) Harmonics, 40MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3470MHz									
6940.00	-4.3	V	3.0	45.5	1.0	-48.7	-13.0	-35.7	
10410.00	-0.9	V	3.0	45.9	1.0	-45.8	-13.0	-32.8	
13880.00	3.2	V	3.0	46.6	1.0	-42.4	-13.0	-29.4	
6940.00	-4.5	H	3.0	45.5	1.0	-49.0	-13.0	-36.0	
10410.00	-0.7	H	3.0	45.9	1.0	-45.6	-13.0	-32.6	
13880.00	3.2	H	3.0	46.6	1.0	-42.3	-13.0	-29.3	
Mid Ch, 3499.98MHz									
6999.96	-4.3	V	3.0	45.5	1.0	-48.7	-13.0	-35.7	
10499.94	-0.8	V	3.0	46.0	1.0	-45.7	-13.0	-32.7	
13999.92	3.3	V	3.0	46.5	1.0	-42.2	-13.0	-29.2	
6999.96	-4.5	H	3.0	45.5	1.0	-49.0	-13.0	-36.0	
10499.94	-0.3	H	3.0	46.0	1.0	-45.3	-13.0	-32.3	
13999.92	3.4	H	3.0	46.5	1.0	-42.1	-13.0	-29.1	
High Ch, 3529MHz									
7058.00	-4.0	V	3.0	45.5	1.0	-48.5	-13.0	-35.5	
10587.00	-0.3	V	3.0	46.1	1.0	-45.4	-13.0	-32.4	
14116.00	3.8	V	3.0	46.5	1.0	-41.7	-13.0	-28.7	
7058.00	-4.3	H	3.0	45.5	1.0	-48.8	-13.0	-35.8	
10587.00	-0.2	H	3.0	46.1	1.0	-45.2	-13.0	-32.2	
14116.00	3.9	H	3.0	46.5	1.0	-41.6	-13.0	-28.6	

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NR Band n77(PC2, 3700-3980 MHz)

10 MHz
QPSK
ANT F

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-29
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 1
Mode: 5G NR_QPSK NR n77 UP Harmonics, 10MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3705MHz									
7410.00	3.2	V	3.0	45.5	1.0	-41.4	-13.0	-28.4	
11115.00	5.2	V	3.0	46.5	1.0	-40.4	-13.0	-27.4	
14820.00	6.9	V	3.0	46.2	1.0	-38.3	-13.0	-25.3	
7410.00	3.0	H	3.0	45.5	1.0	-41.5	-13.0	-28.5	
11115.00	3.8	H	3.0	46.5	1.0	-41.8	-13.0	-28.8	
14820.00	7.4	H	3.0	46.2	1.0	-37.8	-13.0	-24.8	
Mid Ch, 3840MHz									
7680.00	3.6	V	3.0	45.6	1.0	-41.0	-13.0	-28.0	
11520.00	6.4	V	3.0	46.9	1.0	-39.4	-13.0	-26.4	
15360.00	8.0	V	3.0	46.0	1.0	-37.0	-13.0	-24.0	
7680.00	4.0	H	3.0	45.6	1.0	-40.5	-13.0	-27.5	
11520.00	10.6	H	3.0	46.9	1.0	-35.3	-13.0	-22.3	
15360.00	7.8	H	3.0	46.0	1.0	-37.1	-13.0	-24.1	
High Ch, 3975MHz									
7950.00	3.8	V	3.0	45.6	1.0	-40.8	-13.0	-27.8	
11925.00	8.5	V	3.0	47.2	1.0	-37.7	-13.0	-24.7	
15900.00	9.4	V	3.0	45.7	1.0	-35.3	-13.0	-22.3	
7950.00	3.3	H	3.0	45.6	1.0	-41.3	-13.0	-28.3	
11925.00	7.1	H	3.0	47.2	1.0	-39.1	-13.0	-26.1	
15900.00	9.0	H	3.0	45.7	1.0	-35.7	-13.0	-22.7	

20 MHz
ANT D
SRS1

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-18
Test Engineer: 25770
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 1
Mode: 5G NR n77 UP(SRS) Harmonics, 20MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3710MHz									
7420.00	-3.9	V	3.0	45.5	1.0	-48.4	-13.0	-35.4	
11130.00	0.8	V	3.0	46.5	1.0	-44.7	-13.0	-31.7	
14840.00	4.2	V	3.0	46.2	1.0	-41.0	-13.0	-28.0	
7420.00	-4.1	H	3.0	45.5	1.0	-48.6	-13.0	-35.6	
11130.00	0.9	H	3.0	46.5	1.0	-44.6	-13.0	-31.6	
14840.00	4.4	H	3.0	46.2	1.0	-40.8	-13.0	-27.8	
Mid Ch, 3840MHz									
7680.00	-3.6	V	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11520.00	1.1	V	3.0	46.9	1.0	-44.7	-13.0	-31.7	
15360.00	5.0	V	3.0	46.0	1.0	-39.9	-13.0	-26.9	
7680.00	-3.8	H	3.0	45.6	1.0	-48.4	-13.0	-35.4	
11520.00	1.0	H	3.0	46.9	1.0	-44.8	-13.0	-31.8	
15360.00	5.1	H	3.0	46.0	1.0	-39.8	-13.0	-26.8	
High Ch, 3970MHz									
7940.00	-1.3	V	3.0	45.6	1.0	-45.9	-13.0	-32.9	
11910.00	1.6	V	3.0	47.2	1.0	-44.6	-13.0	-31.6	
15880.00	6.1	V	3.0	45.7	1.0	-38.6	-13.0	-25.6	
7940.00	-3.6	H	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11910.00	1.6	H	3.0	47.2	1.0	-44.6	-13.0	-31.6	
15880.00	6.2	H	3.0	45.7	1.0	-38.5	-13.0	-25.5	

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30 MHz
ANT G
SRS2

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-21
Test Engineer: 24542
Configuration: EUT / AC Adapter, X-Position, Open
Location: Chamber 1
Mode: 5G NR n77 UP(SRS) Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3715MHz									
7430.00	-3.9	V	3.0	45.5	1.0	-48.4	-13.0	-35.4	
11145.00	0.9	V	3.0	46.5	1.0	-44.6	-13.0	-31.6	
14860.00	4.2	V	3.0	46.2	1.0	-41.0	-13.0	-28.0	
7430.00	-4.1	H	3.0	45.5	1.0	-48.7	-13.0	-35.7	
11145.00	0.9	H	3.0	46.5	1.0	-44.6	-13.0	-31.6	
14860.00	4.3	H	3.0	46.2	1.0	-40.9	-13.0	-27.9	
Mid Ch, 3840MHz									
7680.00	-0.6	V	3.0	45.6	1.0	-45.2	-13.0	-32.2	
11520.00	1.0	V	3.0	46.9	1.0	-44.8	-13.0	-31.8	
15360.00	5.1	V	3.0	46.0	1.0	-39.9	-13.0	-26.9	
7680.00	-3.8	H	3.0	45.6	1.0	-48.3	-13.0	-35.3	
11520.00	0.9	H	3.0	46.9	1.0	-45.0	-13.0	-32.0	
15360.00	5.2	H	3.0	46.0	1.0	-39.8	-13.0	-26.8	
High Ch, 3965MHz									
7930.00	-3.6	V	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11895.00	1.6	V	3.0	47.2	1.0	-44.6	-13.0	-31.6	
15860.00	6.0	V	3.0	45.7	1.0	-38.7	-13.0	-25.7	
7930.00	-3.6	H	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11895.00	1.5	H	3.0	47.2	1.0	-44.7	-13.0	-31.7	
15860.00	6.1	H	3.0	45.7	1.0	-38.6	-13.0	-25.6	

30 MHz
ANT A
SRS3

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

Company: Samsung
Project #: 4790748041
Date: 2023-04-21
Test Engineer: 25770
Configuration: EUT / AC Adapter, Y-Position, HF
Location: Chamber 1
Mode: 5G NR n77 UP(SRS) Harmonics, 30MHz Bandwidth
Test Votage: AC 120 V, 60 Hz

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 3715MHz									
7430.00	-3.4	V	3.0	45.5	1.0	-48.0	-13.0	-35.0	
11145.00	0.9	V	3.0	46.5	1.0	-44.6	-13.0	-31.6	
14860.00	4.3	V	3.0	46.2	1.0	-40.9	-13.0	-27.9	
7430.00	-4.0	H	3.0	45.5	1.0	-48.6	-13.0	-35.6	
11145.00	0.8	H	3.0	46.5	1.0	-44.7	-13.0	-31.7	
14860.00	4.3	H	3.0	46.2	1.0	-40.9	-13.0	-27.9	
Mid Ch, 3840MHz									
7680.00	-3.7	V	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11520.00	1.0	V	3.0	46.9	1.0	-44.8	-13.0	-31.8	
15360.00	5.1	V	3.0	46.0	1.0	-39.9	-13.0	-26.9	
7680.00	-3.8	H	3.0	45.6	1.0	-48.4	-13.0	-35.4	
11520.00	1.0	H	3.0	46.9	1.0	-44.9	-13.0	-31.9	
15360.00	5.2	H	3.0	46.0	1.0	-39.8	-13.0	-26.8	
High Ch, 3965MHz									
7930.00	-3.6	V	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11895.00	1.6	V	3.0	47.2	1.0	-44.6	-13.0	-31.6	
15860.00	6.0	V	3.0	45.7	1.0	-38.7	-13.0	-25.7	
7930.00	-3.6	H	3.0	45.6	1.0	-48.2	-13.0	-35.2	
11895.00	1.5	H	3.0	47.2	1.0	-44.7	-13.0	-31.7	
15860.00	6.1	H	3.0	45.7	1.0	-38.6	-13.0	-25.6	

END OF REPORT

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