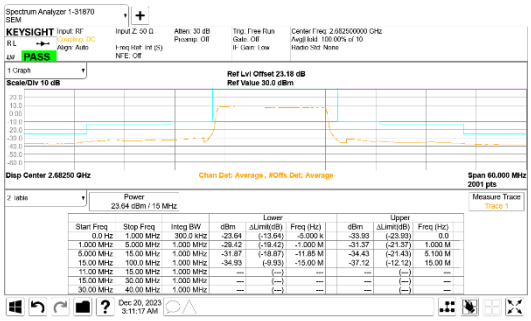
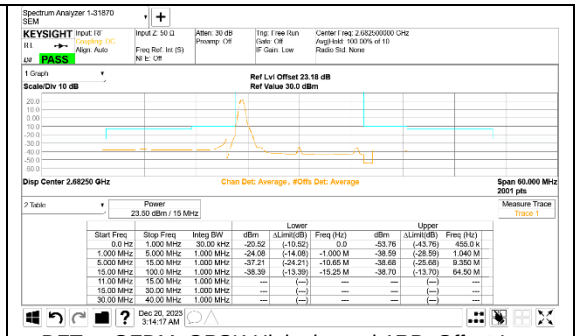
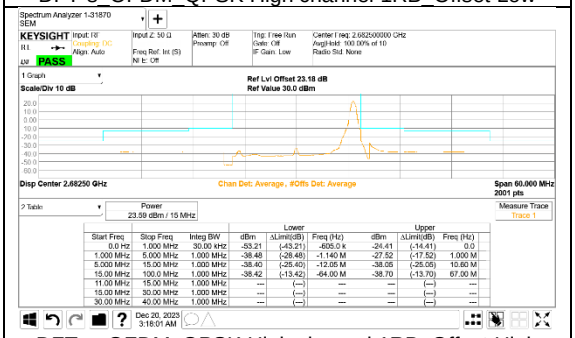
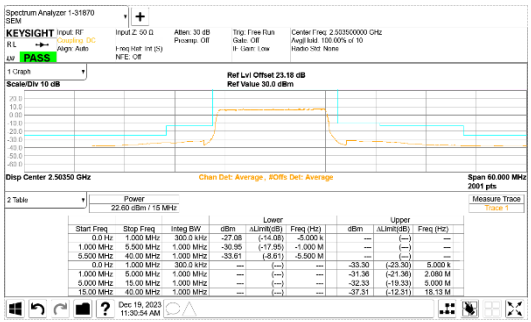
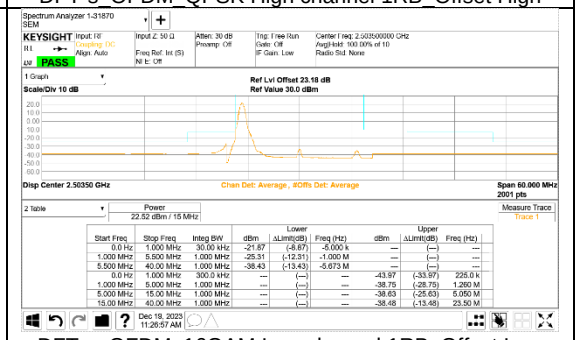
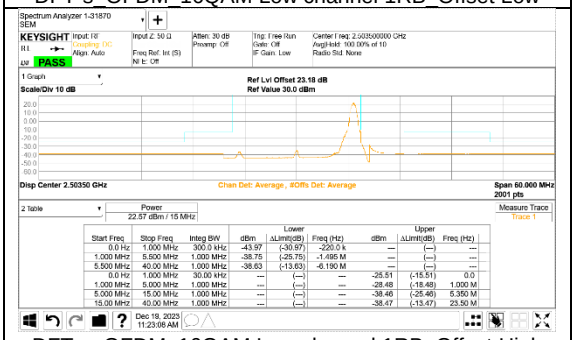
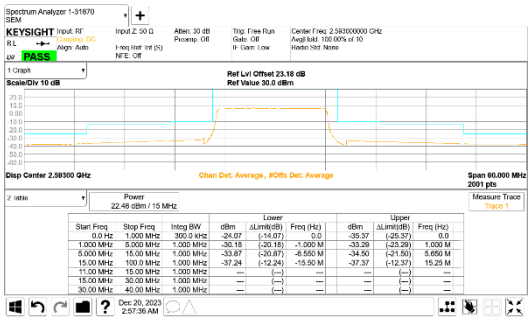
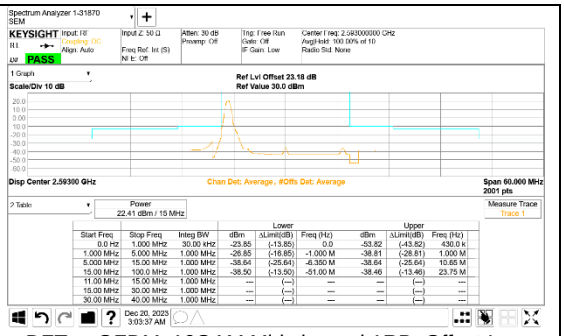
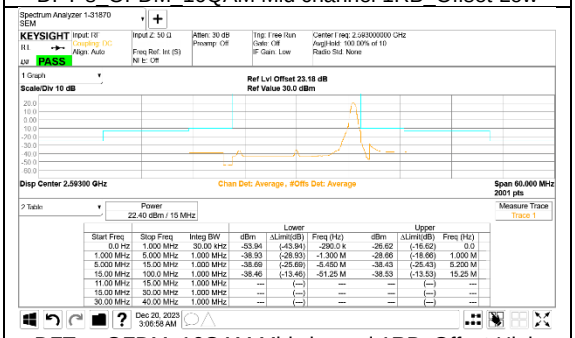
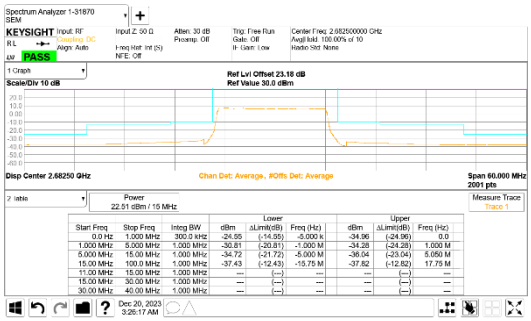
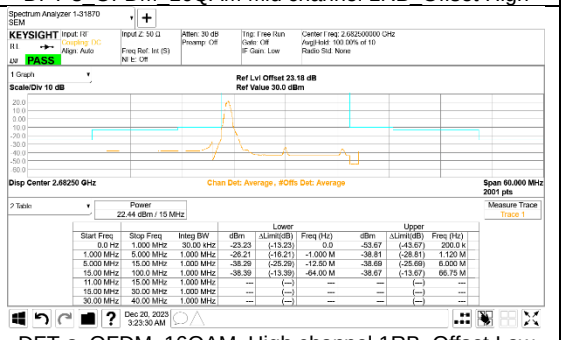
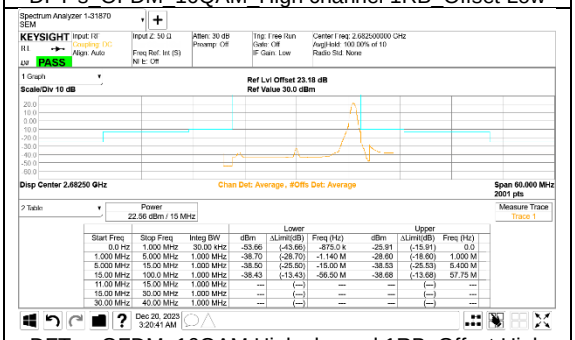
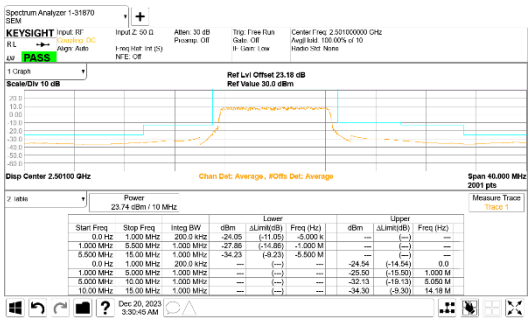
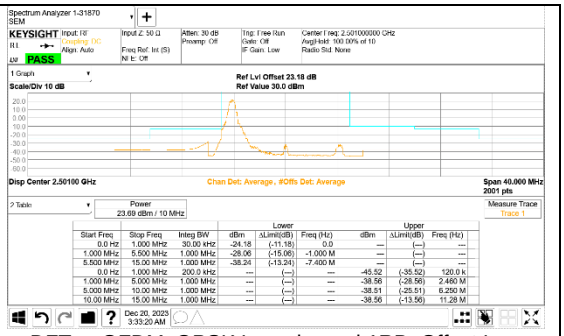
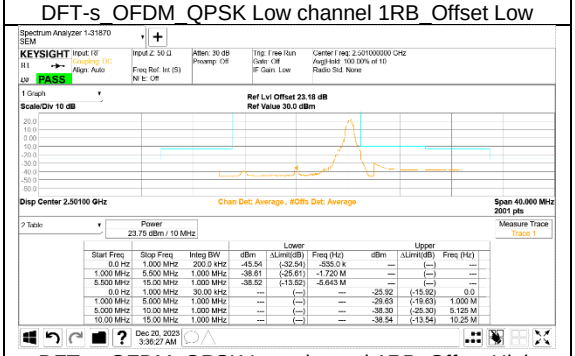
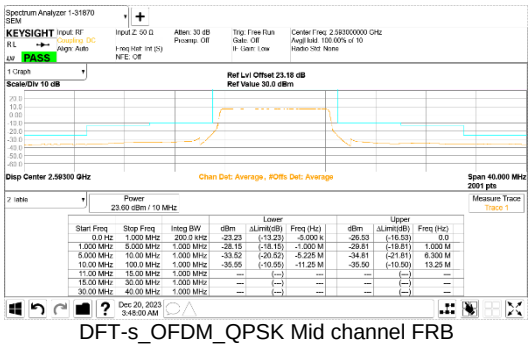
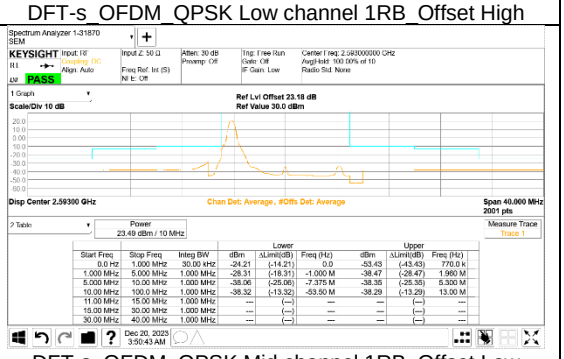
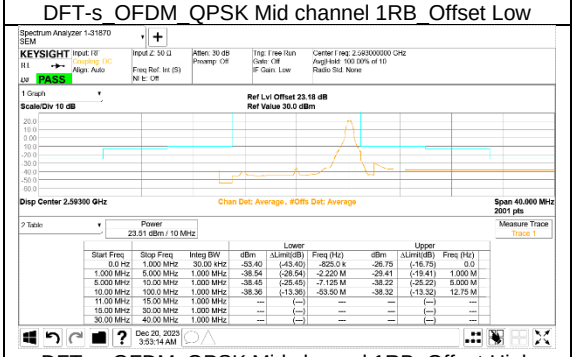
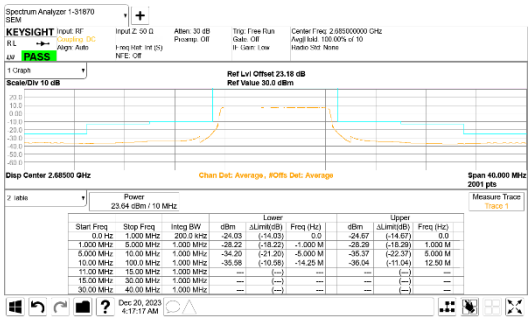
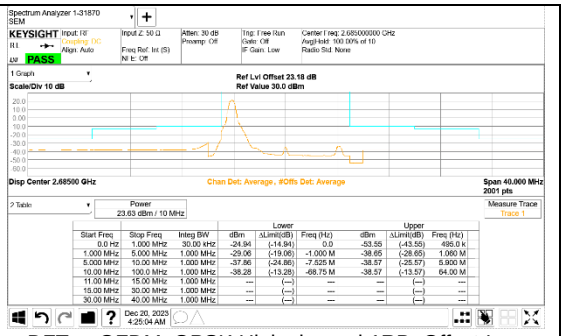
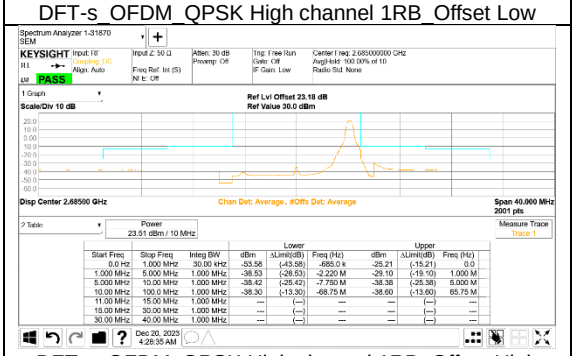
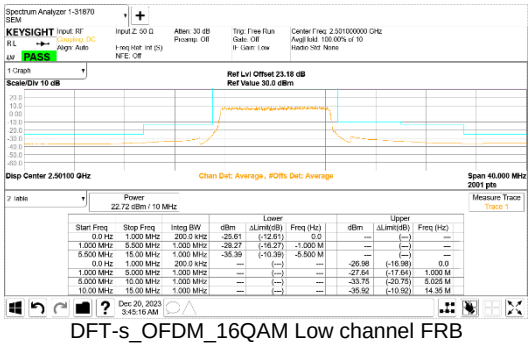
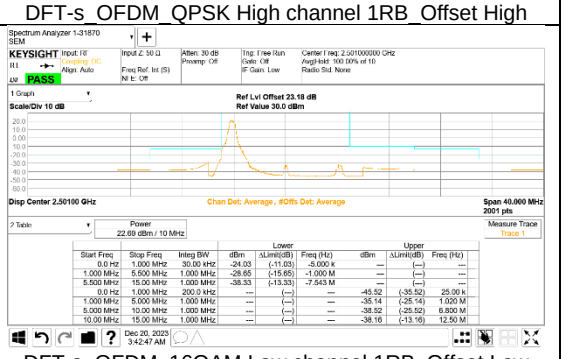
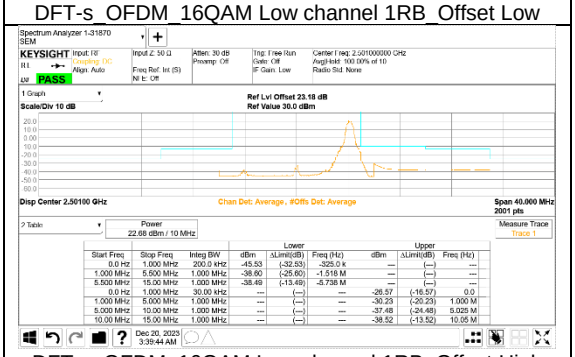
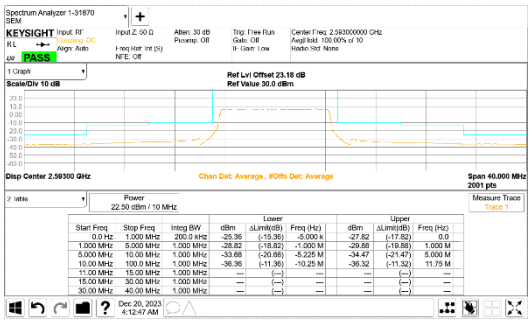
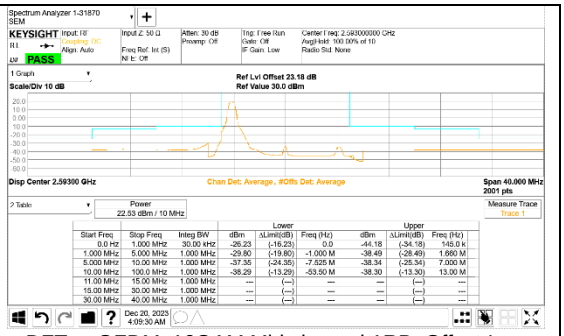
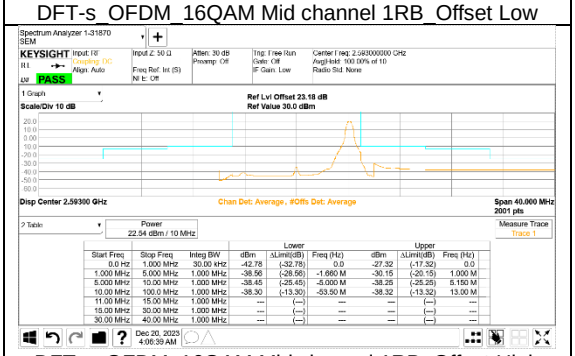
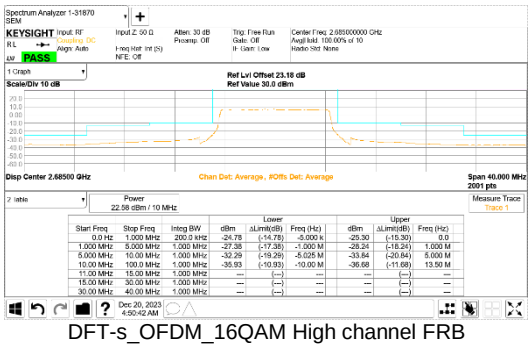
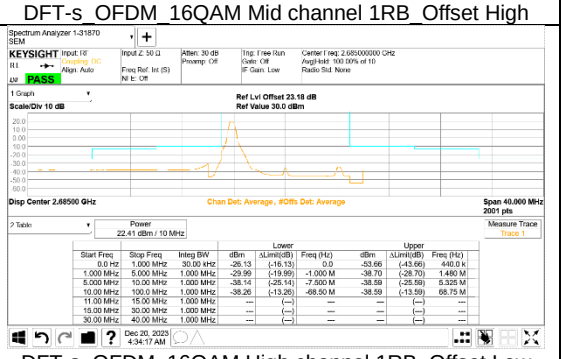
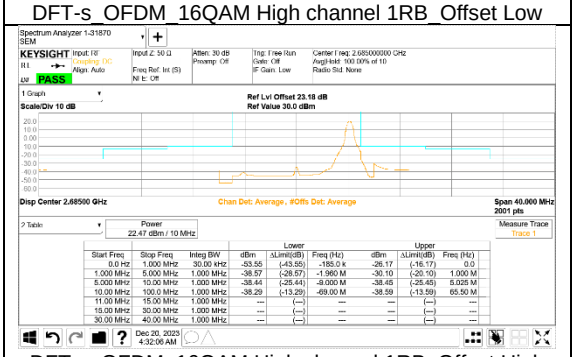
15MHz	 DFT-s_OFDM_QPSK High channel FRB	 DFT-s_OFDM_QPSK High channel 1RB_Offset Low
		 DFT-s_OFDM_QPSK High channel 1RB_Offset High
	 DFT-s_OFDM_16QAM Low channel FRB	 DFT-s_OFDM_16QAM Low channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM Low channel 1RB_Offset High

15MHz	 DFT-s_OFDM_16QAM Mid channel FRB	 DFT-s_OFDM_16QAM Mid channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM Mid channel 1RB_Offset High
	 DFT-s_OFDM_16QAM High channel FRB	 DFT-s_OFDM_16QAM High channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM High channel 1RB_Offset High

10MHz	 DFT-s_OFDM QPSK Low channel FRB	 DFT-s_OFDM_QPSK Low channel 1RB_Offset Low
		 DFT-s_OFDM_QPSK Low channel 1RB_Offset High
	 DFT-s_OFDM_QPSK Mid channel FRB	 DFT-s_OFDM_QPSK Mid channel 1RB_Offset Low
		 DFT-s_OFDM_QPSK Mid channel 1RB_Offset High

10MHz	 DFT-s_OFDM_QPSK High channel FRB	 DFT-s_OFDM_QPSK High channel 1RB_Offset Low
		 DFT-s_OFDM_QPSK High channel 1RB_Offset High
	 DFT-s_OFDM_16QAM Low channel FRB	 DFT-s_OFDM_16QAM Low channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM Low channel 1RB_Offset High

10MHz	 DFT-s_OFDM_16QAM Mid channel FRB	 DFT-s_OFDM_16QAM Mid channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM Mid channel 1RB_Offset High
	 DFT-s_OFDM_16QAM High channel FRB	 DFT-s_OFDM_16QAM High channel 1RB_Offset Low
		 DFT-s_OFDM_16QAM High channel 1RB_Offset High

8.5. CONDUCTED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §27.53

LIMITS

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.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01
The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold Mode using a peak detector to ensure that the worst-case emissions were caught.

a) Set the RBW = 100 kHz for emission below 1 GHz and 1 MHz for emissions above 1 GHz
   (Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
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 = Max (40001);
g) Mode = average(LTE FDD, 5G NR FDD), Max hold(LTE, 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.

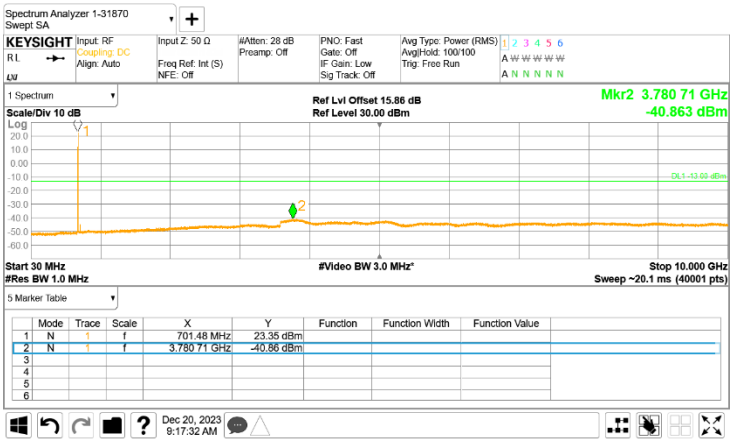
RESULTS

See the following pages.

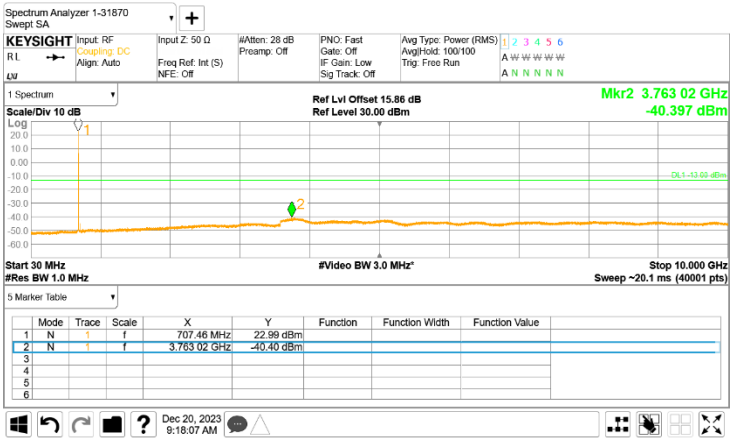
8.5.1. OUT OF BAND EMISSIONS RESULTS

LTE Band 12

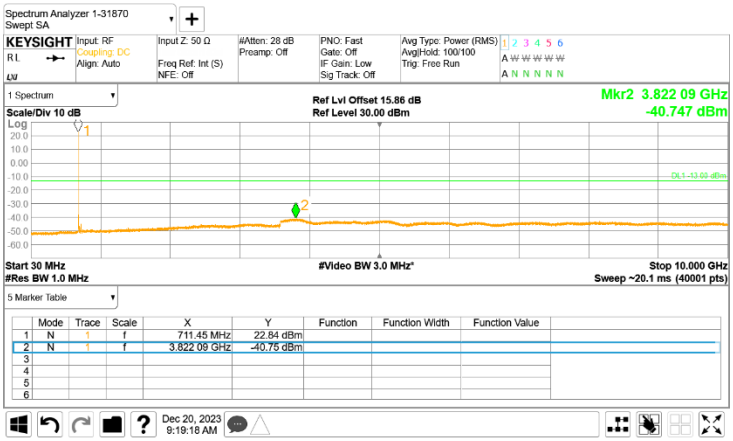
5MHz QPSK



Low channel



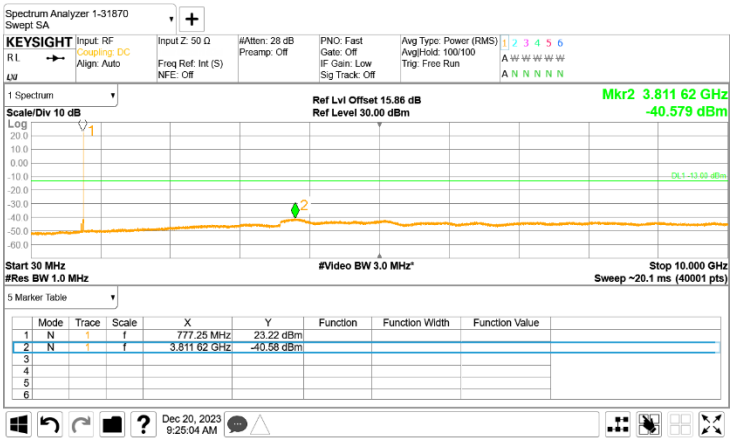
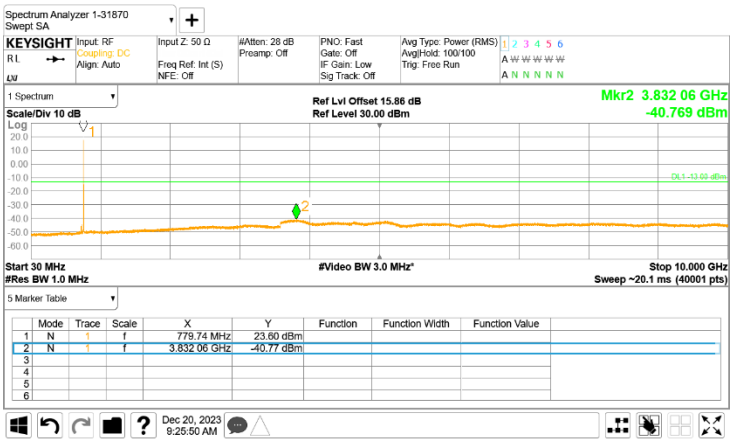
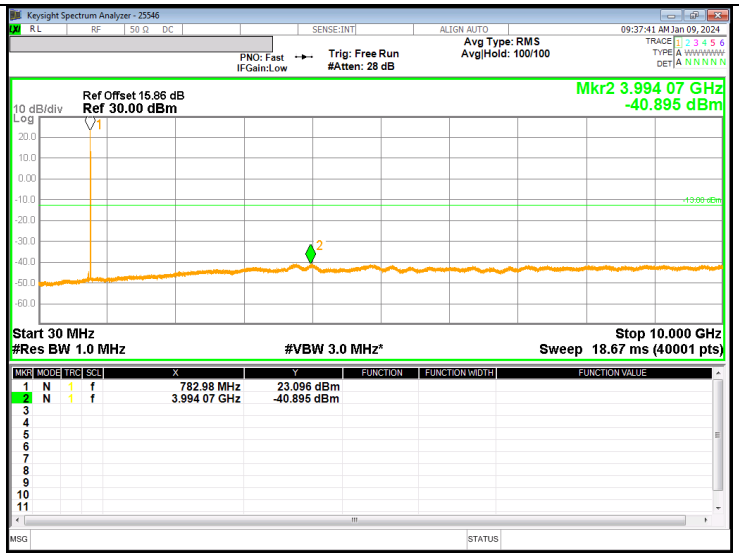
Mid channel



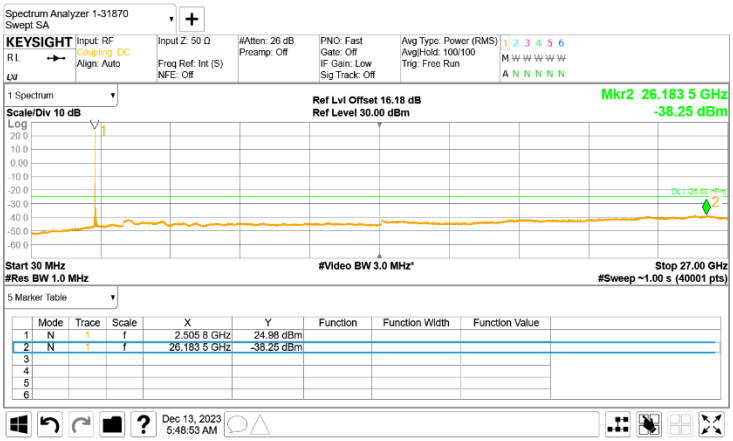
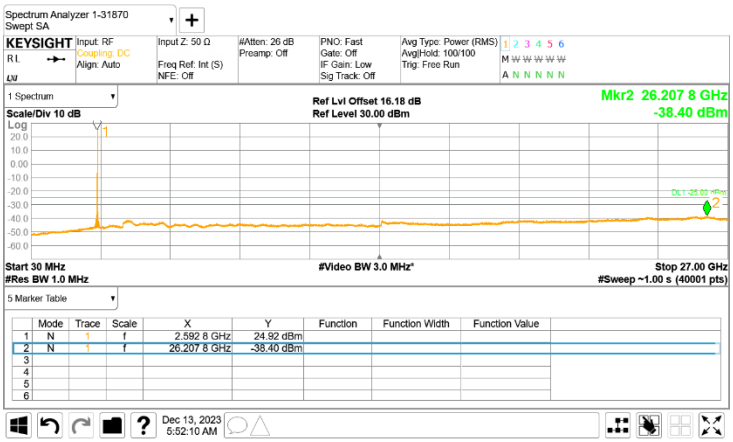
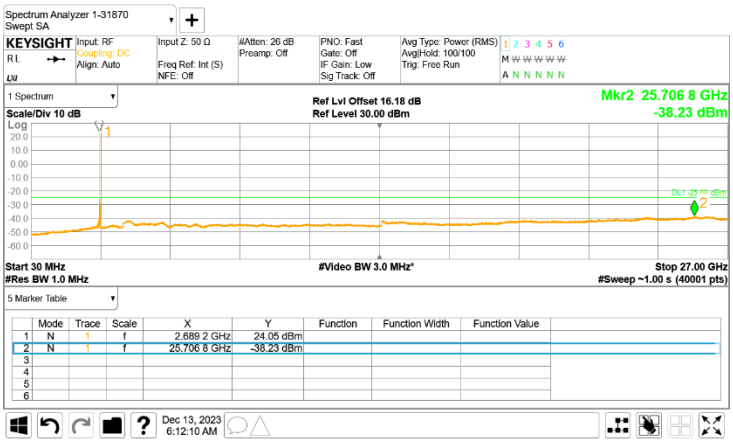
High channel

UL KOREA LTD. Suwon Laboratory FORM ID: FCC_27(05)
218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea TEL: (031) 337-9902 FAX: (031) 213-5433

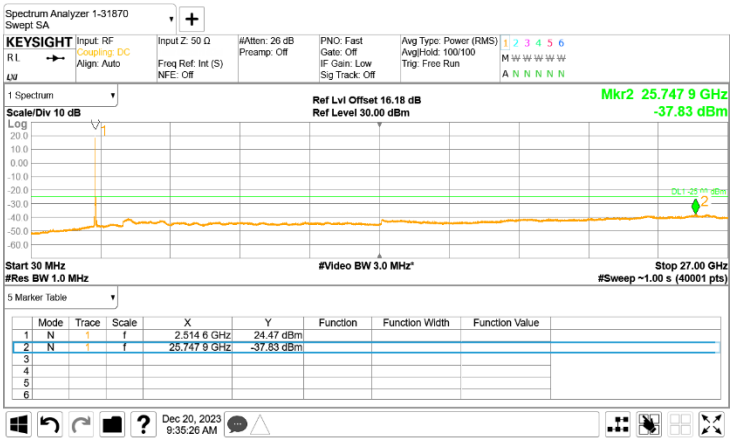
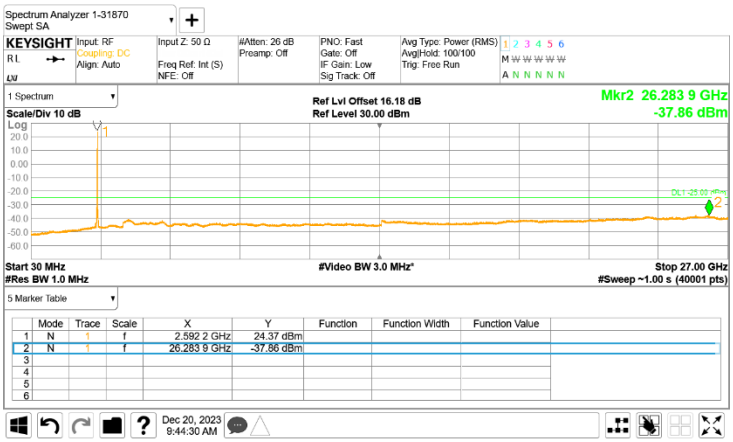
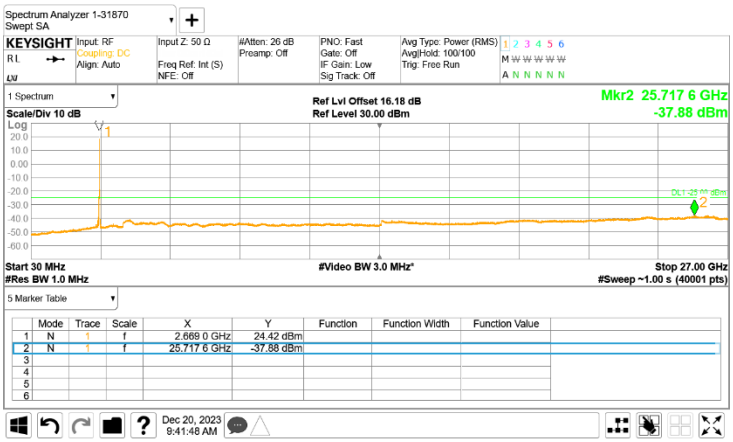
LTE Band 13

5MHz QPSK
 Low channel
 Mid channel
 High channel

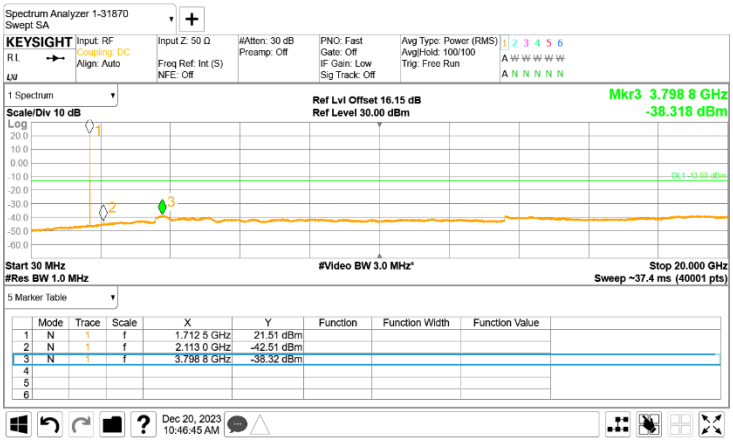
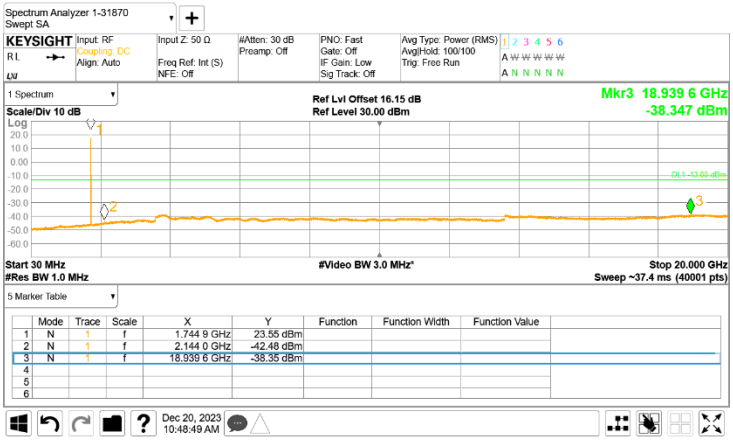
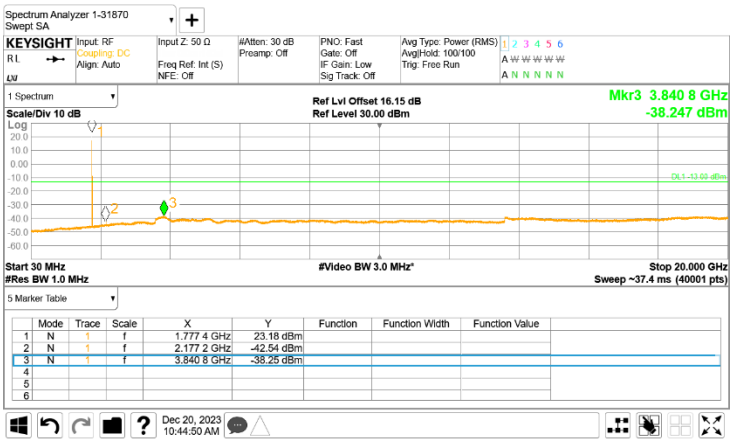
LTE Band 41

20MHz QPSK
 Low channel
 Mid channel
 High channel

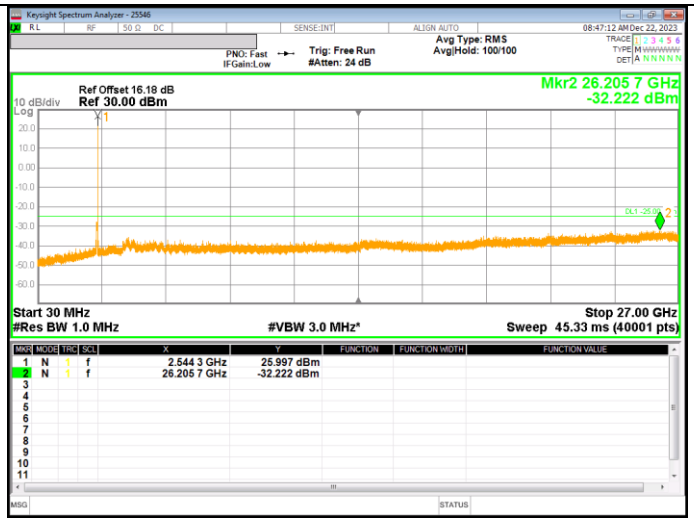
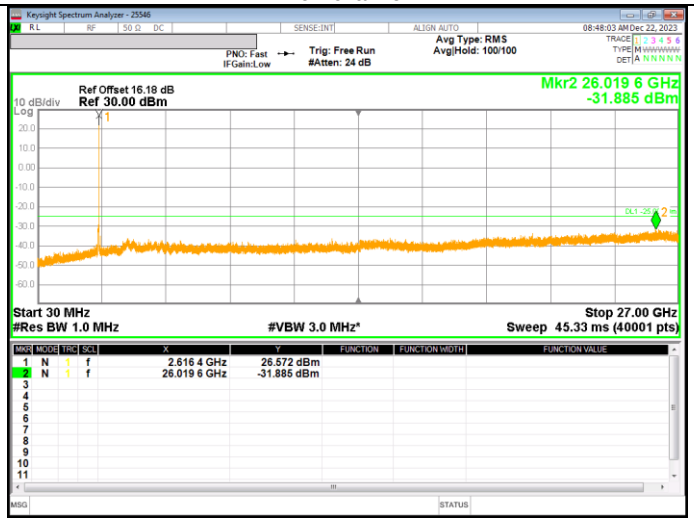
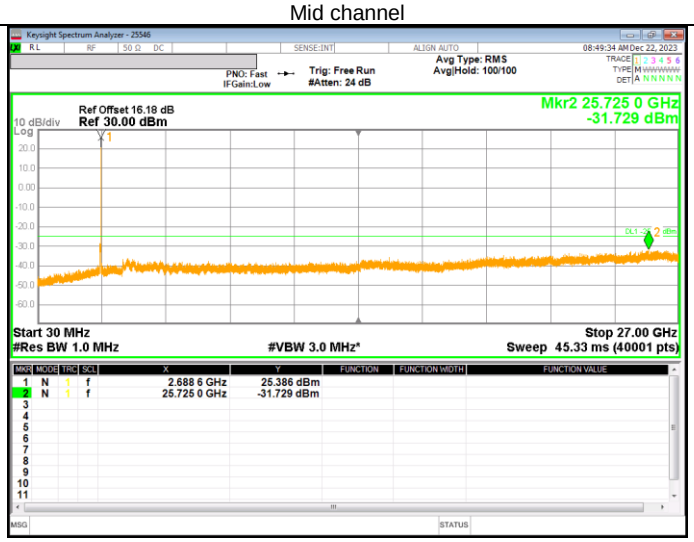
LTE Band 41C (UL CA)

20+20 MHz QPSK
 Low channel
 Mid channel
 High channel

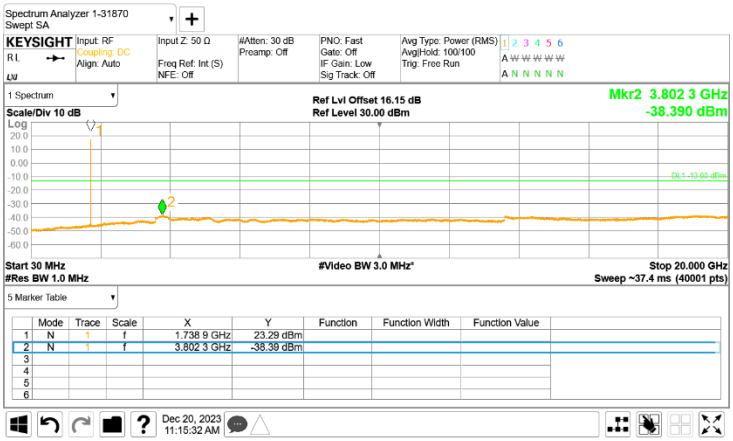
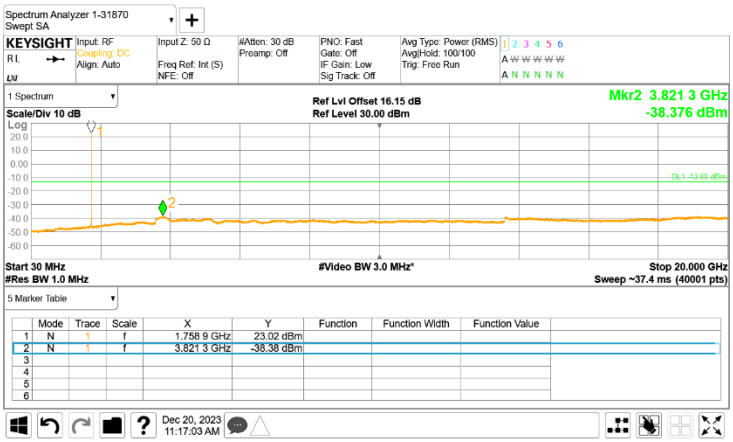
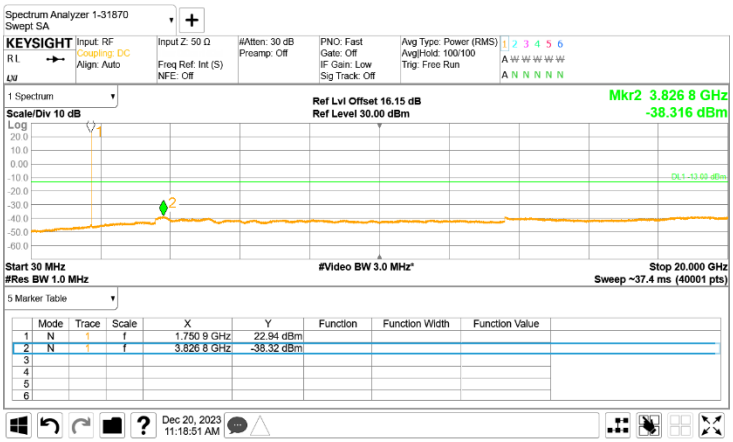
LTE Band 66

5MHz QPSK

Low channel

Mid channel

High channel

NR Band n41

50MHz QPSK DFT-s_OFDM

Low channel

Mid channel

High channel

NR Band n66

30MHz QPSK DFT-s_OFDM
 Low channel
 Mid channel
 High channel

8.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §27.54

LIMITS

Part 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

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)

RESULTS

See the following pages.

8.6.1. FREQUENCY STABILITY RESULTS

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

Test Date	2023-12-20
Test Engineer	25546

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	699.1525	715.8471		
Extreme (50C)		699.1525	715.8471	21.3	0.030
Extreme (40C)		699.1525	715.8471	19.4	0.027
Extreme (30C)		699.1525	715.8471	23.5	0.033
Extreme (10C)		699.1525	715.8471	19.5	0.028
Extreme (0C)		699.1525	715.8471	11.7	0.016
Extreme (-10C)		699.1525	715.8471	13.5	0.019
Extreme (-20C)		699.1525	715.8471	15.3	0.022
Extreme (-30C)		699.1525	715.8471	17.0	0.024
20C	15%	699.1525	715.8471	20.2	0.029
	-15%	699.1525	715.8471	16.1	0.023
	End Point	699.1525	715.8471	15.6	0.022

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

Test Date	2023-12-21
Test Engineer	25546

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	777.2481	786.7413		
Extreme (50C)		777.2481	786.7413	6.1	0.008
Extreme (40C)		777.2481	786.7413	5.4	0.007
Extreme (30C)		777.2481	786.7413	3.3	0.004
Extreme (10C)		777.2481	786.7413	3.5	0.004
Extreme (0C)		777.2481	786.7413	5.6	0.007
Extreme (-10C)		777.2481	786.7413	6.3	0.008
Extreme (-20C)		777.2481	786.7413	4.5	0.006
Extreme (-30C)		777.2481	786.7413	9.4	0.012
20C	15%	777.2481	786.7413	7.7	0.010
	-15%	777.2481	786.7413	4.5	0.006
	End Point	777.2481	786.7413	8.4	0.011

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

Test Date	2023-12-21
Test Engineer	25546

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	2496.2573	2689.7412		
Extreme (50C)		2496.2573	2689.7412	16.2	0.006
Extreme (40C)		2496.2573	2689.7412	11.3	0.004
Extreme (30C)		2496.2573	2689.7412	20.3	0.008
Extreme (10C)		2496.2573	2689.7412	23.3	0.009
Extreme (0C)		2496.2573	2689.7412	15.4	0.006
Extreme (-10C)		2496.2573	2689.7412	16.4	0.006
Extreme (-20C)		2496.2573	2689.7412	19.3	0.007
Extreme (-30C)		2496.2573	2689.7412	15.4	0.006
20C	15%	2496.2573	2689.7412	13.2	0.005
	-15%	2496.2573	2689.7412	15.6	0.006
	End Point	2496.2573	2689.7412	17.0	0.007

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

Test Date	2023-12-22
Test Engineer	25546

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	1710.1514	1779.8498		
Extreme (50C)		1710.1514	1779.8498	6.4	0.004
Extreme (40C)		1710.1514	1779.8498	16.7	0.010
Extreme (30C)		1710.1514	1779.8498	17.3	0.010
Extreme (10C)		1710.1514	1779.8498	15.4	0.009
Extreme (0C)		1710.1514	1779.8498	13.3	0.008
Extreme (-10C)		1710.1514	1779.8498	6.8	0.004
Extreme (-20C)		1710.1514	1779.8498	8.3	0.005
Extreme (-30C)		1710.1514	1779.8498	7.7	0.004
20C	15%	1710.1514	1779.8498	16.3	0.009
	-15%	1710.1514	1779.8498	15.5	0.009
	End Point	1710.1514	1779.8498	13.6	0.008

NR Band n41 (Lowest Frequency: QPSK / Highest Frequency: QPSK)

Test Date	2023-12-26
Test Engineer	25546

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	2496.6797	2689.3013		
Extreme (50C)		2496.6797	2689.3013	13.3	0.005
Extreme (40C)		2496.6797	2689.3013	16.2	0.006
Extreme (30C)		2496.6797	2689.3013	11.0	0.004
Extreme (10C)		2496.6797	2689.3013	10.2	0.004
Extreme (0C)		2496.6797	2689.3013	11.5	0.004
Extreme (-10C)		2496.6797	2689.3013	13.3	0.005
Extreme (-20C)		2496.6797	2689.3013	12.5	0.005
Extreme (-30C)		2496.6797	2689.3013	14.7	0.006
20C	15%	2496.6797	2689.3013	11.6	0.004
	-15%	2496.6797	2689.3013	14.1	0.005
	End Point	2496.6797	2689.3013	12.3	0.005

NR Band n66 (Lowest Frequency: QPSK / Highest Frequency: QPSK)

Test Date	2023-12-26
Test Engineer	25546

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	1710.2594	1779.7418		
Extreme (50C)		1710.2594	1779.7418	7.6	0.004
Extreme (40C)		1710.2594	1779.7418	6.2	0.004
Extreme (30C)		1710.2594	1779.7418	7.7	0.004
Extreme (10C)		1710.2594	1779.7418	5.1	0.003
Extreme (0C)		1710.2594	1779.7418	4.4	0.002
Extreme (-10C)		1710.2594	1779.7418	3.5	0.002
Extreme (-20C)		1710.2594	1779.7418	7.0	0.004
Extreme (-30C)		1710.2594	1779.7418	7.7	0.004
20C	15%	1710.2594	1779.7418	7.3	0.004
	-15%	1710.2594	1779.7418	6.3	0.004
	End Point	1710.2594	1779.7418	5.5	0.003

9. RADIATED RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §27.50

LIMITS

Part 27.50:

(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.

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 = average(LTE, 5G NR);

TEST RESULTS

See the following pages.

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9.1.1. ERP/EIRP RESULTS

LTE Band 12 (ANT A)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	704.00	21.78	V	2.79	-1.34	17.65	58.21	34.77	-19.36	1/0
		707.50	22.52	V	2.79	-1.34	18.39	69.02	34.77	-18.43	1/0
		711.00	21.98	V	2.80	-1.33	17.85	60.95	34.77	-18.31	1/0
	16-QAM	704.00	21.00	V	2.79	-1.34	16.87	48.64	34.77	-20.67	1/0
		707.50	21.58	V	2.79	-1.34	17.45	55.59	34.77	-19.55	1/0
		711.00	21.16	V	2.80	-1.33	17.03	50.47	34.77	-19.57	1/25
5	QPSK	701.50	21.48	V	2.78	-1.35	17.35	54.33	34.77	-19.72	1/12
		707.50	22.61	V	2.79	-1.34	18.48	70.47	34.77	-18.67	1/12
		713.50	22.15	V	2.81	-1.32	18.03	63.53	34.77	-18.41	1/0
	16-QAM	701.50	20.98	V	2.78	-1.35	16.85	48.42	34.77	-20.78	1/12
		707.50	21.61	V	2.79	-1.34	17.48	55.98	34.77	-19.72	1/12
		713.50	21.27	V	2.81	-1.32	17.15	51.88	34.77	-19.42	1/24
3	QPSK	700.50	20.77	V	2.78	-1.35	16.64	46.13	34.77	-19.95	1/8
		707.50	21.29	V	2.79	-1.34	17.16	52.00	34.77	-18.74	1/8
		714.50	21.32	V	2.81	-1.32	17.19	52.36	34.77	-18.33	1/8
	16-QAM	700.50	20.93	V	2.78	-1.35	16.80	47.86	34.77	-20.94	1/8
		707.50	21.23	V	2.79	-1.34	17.10	51.29	34.77	-19.71	1/8
		714.50	21.32	V	2.81	-1.32	17.19	52.36	34.77	-19.51	1/8
1.4	QPSK	699.70	20.59	V	2.78	-1.35	16.46	44.26	34.77	-20.00	1/3
		707.50	21.18	V	2.79	-1.34	17.05	50.70	34.77	-18.62	1/3
		715.30	21.27	V	2.81	-1.32	17.14	51.76	34.77	-18.45	1/3
	16-QAM	699.70	20.63	V	2.78	-1.35	16.50	44.67	34.77	-21.05	1/3
		707.50	21.00	V	2.79	-1.34	16.87	48.64	34.77	-19.69	1/3
		715.30	21.27	V	2.81	-1.32	17.14	51.76	34.77	-19.53	1/3

LTE Band 12 (ANT E)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	704.00	23.23	V	2.79	-1.34	19.10	81.28	34.77	-19.36	1/0
		707.50	23.44	V	2.79	-1.34	19.31	85.31	34.77	-18.43	1/0
		711.00	23.37	V	2.80	-1.33	19.24	83.95	34.77	-18.31	1/0
	16-QAM	704.00	22.39	V	2.79	-1.34	18.26	66.99	34.77	-20.67	1/25
		707.50	22.48	V	2.79	-1.34	18.35	68.39	34.77	-19.55	1/0
		711.00	22.45	V	2.80	-1.33	18.32	67.92	34.77	-19.57	1/0
5	QPSK	701.50	22.67	V	2.78	-1.35	18.54	71.45	34.77	-19.72	1/12
		707.50	23.13	V	2.79	-1.34	19.00	79.43	34.77	-18.67	1/12
		713.50	23.12	V	2.81	-1.32	19.00	79.43	34.77	-18.41	1/12
	16-QAM	701.50	21.96	V	2.78	-1.35	17.83	60.67	34.77	-20.78	1/12
		707.50	22.16	V	2.79	-1.34	18.03	63.53	34.77	-19.72	1/12
		713.50	22.39	V	2.81	-1.32	18.27	67.14	34.77	-19.42	1/0
3	QPSK	700.50	21.78	V	2.78	-1.35	17.65	58.21	34.77	-19.95	1/8
		707.50	22.19	V	2.79	-1.34	18.06	63.97	34.77	-18.74	1/8
		714.50	22.22	V	2.81	-1.32	18.09	64.42	34.77	-18.33	1/8
	16-QAM	700.50	21.13	V	2.78	-1.35	17.00	50.12	34.77	-20.94	1/8
		707.50	21.57	V	2.79	-1.34	17.44	55.46	34.77	-19.71	1/8
		714.50	21.71	V	2.81	-1.32	17.58	57.28	34.77	-19.51	1/8
1.4	QPSK	699.70	21.62	V	2.78	-1.35	17.49	56.10	34.77	-20.00	1/3
		707.50	22.02	V	2.79	-1.34	17.89	61.52	34.77	-18.62	1/3
		715.30	22.17	V	2.81	-1.32	18.04	63.68	34.77	-18.45	1/3
	16-QAM	699.70	20.92	V	2.78	-1.35	16.79	47.75	34.77	-21.05	1/3
		707.50	21.25	V	2.79	-1.34	17.12	51.52	34.77	-19.69	1/5
		715.30	21.52	V	2.81	-1.32	17.39	54.83	34.77	-19.53	1/3

LTE Band 13 (ANT A)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	782.00	23.52	V	2.93	-1.19	19.40	87.10	34.77	-15.37	1/25
	16-QAM	782.00	22.47	V	2.93	-1.19	18.35	68.39	34.77	-16.42	1/25
5	QPSK	779.50	23.16	V	2.93	-1.19	19.04	80.17	34.77	-15.73	1/0
		782.00	23.60	V	2.93	-1.19	19.48	88.72	34.77	-15.29	1/0
		784.50	23.61	V	2.94	-1.18	19.49	88.92	34.77	-15.28	1/0
	16-QAM	779.50	22.24	V	2.93	-1.19	18.12	64.86	34.77	-16.65	1/24
		782.00	22.44	V	2.93	-1.19	18.32	67.92	34.77	-16.45	1/12
		784.50	22.53	V	2.94	-1.18	18.41	69.34	34.77	-16.36	1/12

LTE Band 13 (ANT E)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (mW)	Limit (dBm)	Delta (dB)	RB
10	QPSK	782.00	24.03	V	2.93	-1.19	19.91	97.95	34.77	-14.86	1/25
	16-QAM	782.00	22.80	V	2.93	-1.19	18.68	73.79	34.77	-16.09	1/25
5	QPSK	779.50	23.92	V	2.93	-1.19	19.80	95.50	34.77	-14.97	1/24
		782.00	23.54	V	2.93	-1.19	19.42	87.50	34.77	-15.35	1/24
		784.50	23.89	V	2.94	-1.18	19.77	94.84	34.77	-15.00	1/0
	16-QAM	779.50	22.65	V	2.93	-1.19	18.53	71.29	34.77	-16.24	1/0
		782.00	22.69	V	2.93	-1.19	18.57	71.94	34.77	-16.20	1/24
		784.50	23.05	V	2.94	-1.18	18.93	78.16	34.77	-15.84	1/12

LTE Band 41 (ANT B)

BW (MHz)	MoHulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	2506.00	18.40	H	5.25	9.99	23.14	206.06	33.00	-9.86	1/49
		2593.00	17.73	H	5.34	9.91	22.31	170.22	33.00	-10.69	1/49
		2680.00	17.74	H	5.43	9.87	22.18	165.20	33.00	-10.82	1/99
	16-QAM	2506.00	17.54	H	5.25	9.99	22.28	169.04	33.00	-10.72	1/49
		2593.00	16.80	H	5.34	9.91	21.38	137.40	33.00	-11.62	1/49
		2680.00	16.72	H	5.43	9.87	21.16	130.62	33.00	-11.84	1/49
15	QPSK	2503.50	18.27	H	5.24	9.99	23.02	200.45	33.00	-9.98	1/37
		2593.00	17.80	H	5.34	9.91	22.38	172.98	33.00	-10.62	1/37
		2682.50	17.75	H	5.43	9.87	22.19	165.58	33.00	-10.81	1/74
	16-QAM	2503.50	17.38	H	5.24	9.99	22.13	163.31	33.00	-10.87	1/37
		2593.00	16.71	H	5.34	9.91	21.29	134.59	33.00	-11.71	1/37
		2682.50	16.58	H	5.43	9.87	21.02	126.47	33.00	-11.98	1/37
10	QPSK	2501.00	18.33	H	5.24	10.00	23.09	203.70	33.00	-9.91	1/0
		2593.00	17.83	H	5.34	9.91	22.41	174.18	33.00	-10.59	1/0
		2685.00	17.89	H	5.43	9.87	22.33	171.00	33.00	-10.67	1/0
	16-QAM	2501.00	17.49	H	5.24	10.00	22.25	167.88	33.00	-10.75	1/25
		2593.00	16.71	H	5.34	9.91	21.29	134.59	33.00	-11.71	1/25
		2685.00	16.67	H	5.43	9.87	21.11	129.12	33.00	-11.89	1/0
5	QPSK	2498.50	18.26	H	5.23	10.00	23.03	200.91	33.00	-9.97	1/0
		2593.00	17.76	H	5.34	9.91	22.34	171.40	33.00	-10.66	1/12
		2687.50	17.78	H	5.44	9.87	22.22	166.72	33.00	-10.78	1/0
	16-QAM	2498.50	17.47	H	5.23	10.00	22.24	167.49	33.00	-10.76	1/12
		2593.00	16.79	H	5.34	9.91	21.37	137.09	33.00	-11.63	1/12
		2687.50	16.87	H	5.44	9.87	21.31	135.21	33.00	-11.69	1/12

LTE Band 41 (ANT F)

BW (MHz)	MoHulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	2506.00	16.09	V	5.25	9.99	20.83	121.06	33.00	-12.17	1/0
		2593.00	17.66	V	5.34	9.91	22.24	167.49	33.00	-10.76	1/49
		2680.00	18.10	V	5.43	9.87	22.54	179.47	33.00	-10.46	1/99
	16-QAM	2506.00	15.27	V	5.25	9.99	20.01	100.23	33.00	-12.99	1/49
		2593.00	16.71	V	5.34	9.91	21.29	134.59	33.00	-11.71	1/49
		2680.00	16.93	V	5.43	9.87	21.37	137.09	33.00	-11.63	1/49
15	QPSK	2503.50	16.12	V	5.24	9.99	20.87	122.18	33.00	-12.13	1/37
		2593.00	17.59	V	5.34	9.91	22.17	164.82	33.00	-10.83	1/74
		2682.50	18.21	V	5.43	9.87	22.66	184.50	33.00	-10.34	1/37
	16-QAM	2503.50	15.41	V	5.24	9.99	20.16	103.75	33.00	-12.84	1/37
		2593.00	16.61	V	5.34	9.91	21.19	131.52	33.00	-11.81	1/37
		2682.50	16.61	V	5.43	9.87	21.06	127.64	33.00	-11.94	1/0
10	QPSK	2501.00	16.16	V	5.24	10.00	20.92	123.59	33.00	-12.08	1/25
		2593.00	17.63	V	5.34	9.91	22.21	166.34	33.00	-10.79	1/25
		2685.00	18.32	V	5.43	9.87	22.76	188.80	33.00	-10.24	1/49
	16-QAM	2501.00	14.39	V	5.24	10.00	19.15	82.22	33.00	-13.85	1/49
		2593.00	15.76	V	5.34	9.91	20.34	108.14	33.00	-12.66	1/0
		2685.00	16.14	V	5.43	9.87	20.58	114.29	33.00	-12.42	1/25
5	QPSK	2498.50	16.15	V	5.23	10.00	20.91	123.31	33.00	-12.09	1/24
		2593.00	17.61	V	5.34	9.91	22.19	165.58	33.00	-10.81	1/12
		2687.50	18.08	V	5.44	9.87	22.51	178.24	33.00	-10.49	1/0
	16-QAM	2498.50	14.46	V	5.23	10.00	19.22	83.56	33.00	-13.78	1/12
		2593.00	16.02	V	5.34	9.91	20.60	114.82	33.00	-12.40	1/12
		2687.50	16.32	V	5.44	9.87	20.75	118.85	33.00	-12.25	1/12

LTE Band 41C(ANT B)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
40	QPSK	2515.90	17.55	H	5.26	9.97	22.26	168.27	33.00	-10.74	1/99
		2593.00	16.84	H	5.34	9.91	21.42	138.68	33.00	-11.58	1/99
		2670.00	16.88	H	5.43	9.87	21.33	135.83	33.00	-11.67	1/99
	16-QAM	2515.90	16.88	H	5.26	9.97	21.59	144.21	33.00	-11.41	1/0
		2593.00	15.92	H	5.34	9.91	20.50	112.20	33.00	-12.50	1/0
		2670.00	16.18	H	5.43	9.87	20.63	115.61	33.00	-12.37	1/0

LTE Band 41C (ANT F)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
40	QPSK	2515.90	15.16	V	5.26	9.97	19.87	97.05	33.00	-13.13	1/99
		2593.00	15.36	V	5.34	9.91	19.94	98.63	33.00	-13.06	1/99
		2670.00	15.56	V	5.43	9.87	20.01	100.23	33.00	-12.99	1/99
	16-QAM	2515.90	14.35	V	5.26	9.97	19.06	80.54	33.00	-13.94	1/0
		2593.00	14.50	V	5.34	9.91	19.08	80.91	33.00	-13.92	1/0
		2670.00	14.83	V	5.43	9.87	19.28	84.72	33.00	-13.72	1/0

LTE Band 66 (ANT A)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
20	QPSK	1720.00	17.94	H	4.32	9.55	23.17	207.49	30.00	-6.83	1/99
		1745.00	18.40	H	4.35	9.66	23.71	234.96	30.00	-6.29	1/49
		1770.00	18.63	H	4.38	9.68	23.94	247.74	30.00	-6.06	1/0
	16-QAM	1720.00	17.01	H	4.32	9.55	22.24	167.49	30.00	-7.76	1/99
		1745.00	17.83	H	4.35	9.66	23.14	206.06	30.00	-6.86	1/0
		1770.00	17.95	H	4.38	9.68	23.26	211.84	30.00	-6.74	1/0
15	QPSK	1717.50	17.82	H	4.31	9.53	23.04	201.37	30.00	-6.96	1/0
		1745.00	18.49	H	4.35	9.66	23.80	239.88	30.00	-6.20	1/0
		1772.50	18.80	H	4.38	9.68	24.10	257.04	30.00	-5.90	1/37
	16-QAM	1717.50	15.95	H	4.31	9.53	21.17	130.92	30.00	-8.83	1/0
		1745.00	17.87	H	4.35	9.66	23.18	207.97	30.00	-6.82	1/0
		1772.50	18.18	H	4.38	9.68	23.48	222.84	30.00	-6.52	1/0
10	QPSK	1715.00	17.71	H	4.31	9.52	22.92	195.88	30.00	-7.08	1/0
		1745.00	18.45	H	4.35	9.66	23.76	237.68	30.00	-6.24	1/25
		1775.00	18.83	H	4.38	9.68	24.13	258.82	30.00	-5.87	1/25
	16-QAM	1715.00	15.92	H	4.31	9.52	21.13	129.72	30.00	-8.87	1/25
		1745.00	17.86	H	4.35	9.66	23.17	207.49	30.00	-6.83	1/25
		1775.00	18.22	H	4.38	9.68	23.52	224.91	30.00	-6.48	1/25
5	QPSK	1712.50	17.65	H	4.31	9.51	22.86	193.20	30.00	-7.14	1/12
		1745.00	18.57	H	4.35	9.66	23.88	244.34	30.00	-6.12	1/12
		1777.50	19.05	H	4.39	9.68	24.35	272.27	30.00	-5.65	1/12
	16-QAM	1712.50	15.98	H	4.31	9.51	21.19	131.52	30.00	-8.81	1/12
		1745.00	17.92	H	4.35	9.66	23.23	210.38	30.00	-6.77	1/0
		1777.50	18.31	H	4.39	9.68	23.61	229.61	30.00	-6.39	1/12
3	QPSK	1711.50	16.97	H	4.31	9.51	22.17	164.82	30.00	-7.83	1/8
		1745.00	18.52	H	4.35	9.66	23.83	241.55	30.00	-6.17	1/8
		1778.50	18.97	H	4.39	9.68	24.26	266.69	30.00	-5.74	1/8
	16-QAM	1711.50	15.93	H	4.31	9.51	21.13	129.72	30.00	-8.87	1/8
		1745.00	18.00	H	4.35	9.66	23.31	214.29	30.00	-6.69	1/8
		1778.50	18.35	H	4.39	9.68	23.64	231.21	30.00	-6.36	1/8
1.4	QPSK	1710.70	17.87	H	4.31	9.50	23.07	202.77	30.00	-6.93	1/0
		1745.00	18.44	H	4.35	9.66	23.75	237.14	30.00	-6.25	1/0
		1779.30	18.84	H	4.39	9.68	24.13	258.82	30.00	-5.87	1/0
	16-QAM	1710.70	16.90	H	4.31	9.50	22.10	162.18	30.00	-7.90	1/3
		1745.00	17.74	H	4.35	9.66	23.05	201.84	30.00	-6.95	1/0
		1779.30	18.24	H	4.39	9.68	23.53	225.42	30.00	-6.47	1/0

NR Band n41 (DFT-OFDM) (ANT F)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. ol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
100	QSK	2546.01	19.27	H	5.29	9.91	23.90	245.47	33.00	-9.10	1/1
		2592.99	19.38	H	5.34	9.91	23.96	248.89	33.00	-9.04	1/1
		2640.00	18.60	H	5.39	9.88	23.08	203.24	33.00	-9.92	1/271
	16-QAM	2546.01	17.90	H	5.29	9.91	22.53	179.06	33.00	-10.47	1/271
		2592.99	18.34	H	5.34	9.91	22.92	195.88	33.00	-10.08	1/271
		2640.00	17.24	H	5.39	9.88	21.72	148.59	33.00	-11.28	1/271
90	QSK	2541.00	19.48	H	5.28	9.92	24.12	258.23	33.00	-8.88	1/243
		2592.99	19.70	H	5.34	9.91	24.28	267.92	33.00	-8.72	1/1
		2644.98	19.00	H	5.40	9.87	23.48	222.84	33.00	-9.52	1/1
	16-QAM	2541.00	18.31	H	5.28	9.92	22.95	197.24	33.00	-10.05	1/1
		2592.99	18.80	H	5.34	9.91	23.38	217.77	33.00	-9.62	1/1
		2644.98	17.67	H	5.40	9.87	22.15	164.06	33.00	-10.85	1/1
80	QPSK	2536.02	19.43	H	5.28	9.93	24.09	256.45	33.00	-8.91	1/1
		2592.99	19.63	H	5.34	9.91	24.21	263.63	33.00	-8.79	1/109
		2649.99	18.89	H	5.41	9.87	23.35	216.27	33.00	-9.65	1/215
	16-QAM	2536.02	18.08	H	5.28	9.93	22.74	187.93	33.00	-10.26	1/1
		2592.99	18.70	H	5.34	9.91	23.28	212.81	33.00	-9.72	1/1
		2649.99	17.52	H	5.41	9.87	21.98	157.76	33.00	-11.02	1/1
70	QPSK	2531.02	19.40	H	5.28	9.94	24.07	255.27	33.00	-8.93	1/187
		2593.99	19.69	H	5.34	9.91	24.27	267.30	33.00	-8.73	1/95
		2654.98	18.98	H	5.41	9.87	23.44	220.80	33.00	-9.56	1/187
	16-QAM	2531.02	18.00	H	5.28	9.94	22.67	184.93	33.00	-10.33	1/1
		2593.99	18.65	H	5.34	9.91	23.23	210.38	33.00	-9.77	1/1
		2654.98	17.44	H	5.41	9.87	21.90	154.88	33.00	-11.10	1/1
60	QPSK	2526.00	19.11	H	5.27	9.95	23.79	239.33	33.00	-9.21	1/160
		2592.99	19.45	H	5.34	9.91	24.03	252.93	33.00	-8.97	1/160
		2659.98	18.80	H	5.41	9.87	23.25	211.35	33.00	-9.75	1/160
	16-QAM	2526.00	17.80	H	5.27	9.95	22.48	177.01	33.00	-10.52	1/1
		2592.99	18.50	H	5.34	9.91	23.08	203.24	33.00	-9.92	1/1
		2659.98	17.25	H	5.41	9.87	21.70	147.91	33.00	-11.30	1/1
50	QPSK	2521.01	19.38	H	5.26	9.96	24.08	255.86	33.00	-8.92	1/131
		2592.99	19.86	H	5.34	9.91	24.44	277.97	33.00	-8.56	1/131
		2665.00	19.14	H	5.42	9.87	23.59	228.56	33.00	-9.41	1/131
	16-QAM	2521.01	17.82	H	5.26	9.96	22.52	178.65	33.00	-10.48	1/1
		2592.99	18.71	H	5.34	9.91	23.29	213.30	33.00	-9.71	1/1
		2665.00	17.60	H	5.42	9.87	22.05	160.32	33.00	-10.95	1/1
40	QPSK	2516.01	19.15	H	5.26	9.97	23.86	243.22	33.00	-9.14	1/1
		2592.99	19.67	H	5.34	9.91	24.25	266.07	33.00	-8.75	1/53
		2670.00	19.07	H	5.43	9.87	23.52	224.91	33.00	-9.48	1/104
	16-QAM	2516.01	17.51	H	5.26	9.97	22.22	166.72	33.00	-10.78	1/1
		2592.99	18.55	H	5.34	9.91	23.13	205.59	33.00	-9.87	1/1
		2670.00	17.31	H	5.43	9.87	21.76	149.97	33.00	-11.24	1/1
30	QPSK	2511.00	19.05	H	5.25	9.98	23.78	238.78	33.00	-9.22	1/1
		2592.99	19.71	H	5.34	9.91	24.29	268.53	33.00	-8.71	1/76
		2675.00	19.31	H	5.43	9.87	23.76	237.68	33.00	-9.24	1/76
	16-QAM	2511.00	17.68	H	5.25	9.98	22.41	174.18	33.00	-10.59	1/1
		2592.99	18.66	H	5.34	9.91	23.24	210.86	33.00	-9.76	1/1
		2675.00	17.68	H	5.43	9.87	22.13	163.31	33.00	-10.87	1/1
25	QPSK	2508.51	19.00	H	5.25	9.98	23.74	236.59	33.00	-9.26	1/1
		2592.99	19.23	H	5.34	9.91	23.81	240.44	33.00	-9.19	1/1
		2677.50	19.01	H	5.43	9.87	23.45	221.31	33.00	-9.55	1/63
	16-QAM	2508.51	17.59	H	5.25	9.98	22.33	171.00	33.00	-10.67	1/1
		2592.99	18.33	H	5.34	9.91	22.91	195.43	33.00	-10.09	1/1
		2677.50	17.70	H	5.43	9.87	22.14	163.68	33.00	-10.86	1/1
20	QPSK	2506.02	18.87	H	5.25	9.99	23.61	229.61	33.00	-9.39	1/1
		2592.99	19.54	H	5.34	9.91	24.12	258.23	33.00	-8.88	1/1
		2679.99	19.11	H	5.43	9.87	23.55	226.46	33.00	-9.45	1/1
	16-QAM	2506.02	17.48	H	5.25	9.99	22.22	166.72	33.00	-10.78	1/1
		2592.99	18.53	H	5.34	9.91	23.11	204.64	33.00	-9.89	1/1
		2679.99	17.72	H	5.43	9.87	22.16	164.44	33.00	-10.84	1/1
15	QPSK	2503.50	18.92	H	5.24	9.99	23.67	232.81	33.00	-9.33	1/19
		2592.99	19.63	H	5.34	9.91	24.21	263.63	33.00	-8.79	1/36
		2682.48	19.32	H	5.43	9.87	23.76	237.68	33.00	-9.24	1/36
	16-QAM	2503.50	17.42	H	5.24	9.99	22.17	164.82	33.00	-10.83	1/1
		2592.99	18.54	H	5.34	9.91	23.12	205.12	33.00	-9.88	1/1
		2682.48	17.81	H	5.43	9.87	22.25	167.88	33.00	-10.75	1/1
10	QPSK	2501.01	18.95	H	5.24	10.00	23.71	234.96	33.00	-9.29	1/22
		2592.99	19.61	H	5.34	9.91	24.19	262.42	33.00	-8.81	1/1
		2685.00	19.40	H	5.43	9.87	23.84	242.10	33.00	-9.16	1/22
	16-QAM	2501.01	17.50	H	5.24	10.00	22.26	168.27	33.00	-10.74	1/1
		2592.99	18.76	H	5.34	9.91	23.34	215.77	33.00	-9.66	1/1
		2685.00	18.09	H	5.43	9.87	22.53	179.06	33.00	-10.47	1/1

NR Band n41 (DFT-OFDM) (ANT B)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. ol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
100	QSK	2546.01	17.33	V	5.29	9.91	21.95	156.68	33.00	-11.05	1/1
		2592.99	18.03	V	5.34	9.91	22.61	182.39	33.00	-10.39	1/271
		2640.00	17.26	V	5.39	9.88	21.75	149.62	33.00	-11.25	1/1
	16-QAM	2546.01	16.12	V	5.29	9.91	20.74	118.58	33.00	-12.26	1/1
		2592.99	16.81	V	5.34	9.91	21.39	137.72	33.00	-11.61	1/1
		2640.00	15.79	V	5.39	9.88	20.28	106.66	33.00	-12.72	1/1
90	QSK	2541.00	17.34	V	5.28	9.92	21.98	157.76	33.00	-11.02	1/243
		2592.99	18.20	V	5.34	9.91	22.78	189.67	33.00	-10.22	1/243
		2644.98	17.47	V	5.40	9.87	21.95	156.68	33.00	-11.05	1/1
	16-QAM	2541.00	16.41	V	5.28	9.92	21.05	127.35	33.00	-11.95	1/1
		2592.99	17.00	V	5.34	9.91	21.58	143.88	33.00	-11.42	1/1
		2644.98	16.38	V	5.40	9.87	20.86	121.90	33.00	-12.14	1/1
80	QPSK	2536.02	17.35	V	5.28	9.93	22.00	158.49	33.00	-11.00	1/215
		2592.99	18.18	V	5.34	9.91	22.76	188.80	33.00	-10.24	1/1
		2649.99	17.46	V	5.41	9.87	21.92	155.60	33.00	-11.08	1/1
	16-QAM	2536.02	16.26	V	5.28	9.93	20.91	123.31	33.00	-12.09	1/1
		2592.99	16.81	V	5.34	9.91	21.39	137.72	33.00	-11.61	1/1
		2649.99	16.26	V	5.41	9.87	20.72	118.03	33.00	-12.28	1/1
70	QPSK	2531.02	17.31	V	5.28	9.94	21.98	157.76	33.00	-11.02	1/187
		2593.99	18.15	V	5.34	9.91	22.72	187.07	33.00	-10.28	1/187
		2654.98	17.34	V	5.41	9.87	21.80	151.36	33.00	-11.20	1/1
	16-QAM	2531.02	16.16	V	5.28	9.94	20.83	121.06	33.00	-12.17	1/1
		2593.99	16.73	V	5.34	9.91	21.30	134.90	33.00	-11.70	1/1
		2654.98	16.07	V	5.41	9.87	20.53	112.98	33.00	-12.47	1/1
60	QPSK	2526.00	17.07	V	5.27	9.95	21.75	149.62	33.00	-11.25	1/160
		2592.99	18.03	V	5.34	9.91	22.61	182.39	33.00	-10.39	1/81
		2659.98	17.20	V	5.41	9.87	21.66	146.55	33.00	-11.34	1/160
	16-QAM	2526.00	15.80	V	5.27	9.95	20.48	111.69	33.00	-12.52	1/1
		2592.99	16.80	V	5.34	9.91	21.38	137.40	33.00	-11.62	1/1
		2659.98	15.86	V	5.41	9.87	20.32	107.65	33.00	-12.68	1/1
50	QPSK	2521.01	17.18	V	5.26	9.96	21.88	154.17	33.00	-11.12	1/131
		2592.99	18.25	V	5.34	9.91	22.83	191.87	33.00	-10.17	1/131
		2665.00	17.26	V	5.42	9.87	21.71	148.25	33.00	-11.29	1/1
	16-QAM	2521.01	16.00	V	5.26	9.96	20.70	117.49	33.00	-12.30	1/1
		2592.99	16.89	V	5.34	9.91	21.47	140.28	33.00	-11.53	1/1
		2665.00	16.01	V	5.42	9.87	20.46	111.17	33.00	-12.54	1/1
40	QPSK	2516.01	17.02	V	5.26	9.97	21.73	148.94	33.00	-11.27	1/104
		2592.99	18.13	V	5.34	9.91	22.71	186.64	33.00	-10.29	1/53
		2670.00	17.18	V	5.43	9.87	21.63	145.55	33.00	-11.37	1/53
	16-QAM	2516.01	15.89	V	5.26	9.97	20.60	114.82	33.00	-12.40	1/1
		2592.99	16.68	V	5.34	9.91	21.26	133.66	33.00	-11.74	1/1
		2670.00	15.74	V	5.43	9.87	20.19	104.47	33.00	-12.81	1/1
30	QPSK	2511.00	17.01	V	5.25	9.98	21.74	149.28	33.00	-11.26	1/76
		2592.99	18.16	V	5.34	9.91	22.74	187.93	33.00	-10.26	1/76
		2675.00	17.17	V	5.43	9.87	21.62	145.21	33.00	-11.38	1/39
	16-QAM	2511.00	15.91	V	5.25	9.98	20.64	115.88	33.00	-12.36	1/1
		2592.99	16.76	V	5.34	9.91	21.34	136.14	33.00	-11.66	1/1
		2675.00	15.89	V	5.43	9.87	20.34	108.14	33.00	-12.66	1/1
25	QPSK	2508.51	16.75	V	5.25	9.98	21.49	140.93	33.00	-11.51	1/1
		2592.99	17.46	V	5.34	9.91	22.04	159.96	33.00	-10.96	1/32
		2677.50	16.78	V	5.43	9.87	21.22	132.43	33.00	-11.78	1/63
	16-QAM	2508.51	15.75	V	5.25	9.98	20.49	111.94	33.00	-12.51	1/1
		2592.99	16.39	V	5.34	9.91	20.97	125.03	33.00	-12.03	1/1
		2677.50	15.44	V	5.43	9.87	19.88	97.27	33.00	-13.12	1/1
20	QPSK	2506.02	16.91	V	5.25	9.99	21.65	146.22	33.00	-11.35	1/1
		2592.99	17.96	V	5.34	9.91	22.54	179.47	33.00	-10.46	1/1
		2679.99	17.09	V	5.43	9.87	21.53	142.23	33.00	-11.47	1/1
	16-QAM	2506.02	15.86	V	5.25	9.99	20.60	114.82	33.00	-12.40	1/1
		2592.99	16.86	V	5.34	9.91	21.44	139.32	33.00	-11.56	1/1
		2679.99	15.73	V	5.43	9.87	20.17	103.99	33.00	-12.83	1/1
15	QPSK	2503.50	16.90	V	5.24	9.99	21.65	146.22	33.00	-11.35	1/36
		2592.99	17.96	V	5.34	9.91	22.54	179.47	33.00	-10.46	1/36
		2682.48	17.17	V	5.43	9.87	21.62	145.21	33.00	-11.38	1/1
	16-QAM	2503.50	15.75	V	5.24	9.99	20.50	112.20	33.00	-12.50	1/1
		2592.99	16.86	V	5.34	9.91	21.44	139.32	33.00	-11.56	1/1
		2682.48	15.82	V	5.43	9.87	20.27	106.41	33.00	-12.73	1/1
10	QPSK	2501.01	17.07	V	5.24	10.00	21.83	152.41	33.00	-11.17	1/1
		2592.99	17.95	V	5.34	9.91	22.53	179.06	33.00	-10.47	1/22
		2685.00	17.19	V	5.43	9.87	21.63	145.55	33.00	-11.37	1/1
	16-QAM	2501.01	16.09	V	5.24	10.00	20.85	121.62	33.00	-12.15	1/1
		2592.99	16.85	V	5.34	9.91	21.43	139.00	33.00	-11.57	1/1
		2685.00	15.91	V	5.43	9.87	20.35	108.39	33.00	-12.65	1/1

NR Band n66 (DFT-OFDM) (ANT A)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
40	QPSK	1730.00	18.08	H	4.33	9.59	23.35	216.27	30.00	-6.65	1/214
		1745.00	18.10	H	4.35	9.66	23.41	219.28	30.00	-6.59	1/214
		1760.00	18.63	H	4.37	9.68	23.94	247.74	30.00	-6.06	1/108
	16-QAM	1730.00	17.12	H	4.33	9.59	22.39	173.38	30.00	-7.61	1/108
		1745.00	17.05	H	4.35	9.66	22.36	172.19	30.00	-7.64	1/214
		1760.00	17.69	H	4.37	9.68	23.00	199.53	30.00	-7.00	1/108
35	QPSK	1727.50	18.18	H	4.33	9.58	23.43	220.29	30.00	-6.57	1/93
		1745.00	18.07	H	4.35	9.66	23.38	217.77	30.00	-6.62	1/93
		1762.50	18.81	H	4.37	9.68	24.12	258.23	30.00	-5.88	1/93
	16-QAM	1727.50	17.07	H	4.33	9.58	22.32	170.61	30.00	-7.68	1/93
		1745.00	17.02	H	4.35	9.66	22.33	171.00	30.00	-7.67	1/186
		1762.50	17.75	H	4.37	9.68	23.06	202.30	30.00	-6.94	1/93
30	QPSK	1725.00	18.28	H	4.32	9.57	23.53	225.42	30.00	-6.47	1/158
		1745.00	18.22	H	4.35	9.66	23.53	225.42	30.00	-6.47	1/158
		1765.00	19.00	H	4.37	9.68	24.31	269.77	30.00	-5.69	1/1
	16-QAM	1725.00	17.17	H	4.32	9.57	22.42	174.58	30.00	-7.58	1/1
		1745.00	17.20	H	4.35	9.66	22.51	178.24	30.00	-7.49	1/158
		1765.00	18.01	H	4.37	9.68	23.32	214.78	30.00	-6.68	1/1
25	QPSK	1722.50	18.01	H	4.32	9.56	23.25	211.35	30.00	-6.75	1/67
		1745.00	18.15	H	4.35	9.66	23.46	221.82	30.00	-6.54	1/131
		1767.50	18.95	H	4.38	9.68	24.26	266.69	30.00	-5.74	1/1
	16-QAM	1722.50	16.98	H	4.32	9.56	22.22	166.72	30.00	-7.78	1/1
		1745.00	17.14	H	4.35	9.66	22.45	175.79	30.00	-7.55	1/131
		1767.50	17.95	H	4.38	9.68	23.26	211.84	30.00	-6.74	1/1
20	QPSK	1720.00	17.87	H	4.32	9.55	23.10	204.17	30.00	-6.90	1/104
		1745.00	18.02	H	4.35	9.66	23.33	215.28	30.00	-6.67	1/104
		1770.00	18.83	H	4.38	9.68	24.14	259.42	30.00	-5.86	1/104
	16-QAM	1720.00	16.77	H	4.32	9.55	22.00	158.49	30.00	-8.00	1/104
		1745.00	16.92	H	4.35	9.66	22.23	167.11	30.00	-7.77	1/104
		1770.00	17.88	H	4.38	9.68	23.19	208.45	30.00	-6.81	1/104
15	QPSK	1717.50	17.85	H	4.31	9.53	23.07	202.77	30.00	-6.93	1/1
		1745.00	18.08	H	4.35	9.66	23.39	218.27	30.00	-6.61	1/77
		1772.50	18.92	H	4.38	9.68	24.22	264.24	30.00	-5.78	1/1
	16-QAM	1717.50	16.80	H	4.31	9.53	22.02	159.22	30.00	-7.98	1/1
		1745.00	16.94	H	4.35	9.66	22.25	167.88	30.00	-7.75	1/77
		1772.50	17.96	H	4.38	9.68	23.26	211.84	30.00	-6.74	1/1
10	QPSK	1715.00	17.87	H	4.31	9.52	23.08	203.24	30.00	-6.92	1/26
		1745.00	17.98	H	4.35	9.66	23.29	213.30	30.00	-6.71	1/1
		1775.00	19.00	H	4.38	9.68	24.30	269.15	30.00	-5.70	1/26
	16-QAM	1715.00	16.74	H	4.31	9.52	21.95	156.68	30.00	-8.05	1/50
		1745.00	16.92	H	4.35	9.66	22.23	167.11	30.00	-7.77	1/26
		1775.00	18.02	H	4.38	9.68	23.32	214.78	30.00	-6.68	1/26
5	QPSK	1712.50	17.73	H	4.31	9.51	22.94	196.79	30.00	-7.06	1/1
		1745.00	18.09	H	4.35	9.66	23.40	218.78	30.00	-6.60	1/1
		1777.50	19.01	H	4.39	9.68	24.31	269.77	30.00	-5.69	1/1
	16-QAM	1712.50	16.68	H	4.31	9.51	21.89	154.53	30.00	-8.11	1/23
		1745.00	16.97	H	4.35	9.66	22.28	169.04	30.00	-7.72	1/23
		1777.50	18.05	H	4.39	9.68	23.35	216.27	30.00	-6.65	1/23

NR Band n66 (DFT-OFDM) (ANT F)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)	RB
40	QPSK	1730.00	17.89	H	4.33	9.59	23.15	206.54	30.00	-6.85	1/1
		1745.00	17.85	H	4.35	9.66	23.17	207.49	30.00	-6.83	1/108
		1760.00	18.10	H	4.37	9.68	23.41	219.28	30.00	-6.59	1/1
	16-QAM	1730.00	16.90	H	4.33	9.59	22.16	164.44	30.00	-7.84	1/1
		1745.00	16.94	H	4.35	9.66	22.25	167.88	30.00	-7.75	1/1
		1760.00	17.13	H	4.37	9.68	22.45	175.79	30.00	-7.55	1/1
35	QPSK	1727.50	17.53	H	4.33	9.58	22.78	189.67	30.00	-7.22	1/186
		1745.00	17.57	H	4.35	9.66	22.88	194.09	30.00	-7.12	1/93
		1762.50	17.90	H	4.37	9.68	23.21	209.41	30.00	-6.79	1/93
	16-QAM	1727.50	16.51	H	4.33	9.58	21.76	149.97	30.00	-8.24	1/93
		1745.00	16.69	H	4.35	9.66	22.00	158.49	30.00	-8.00	1/93
		1762.50	16.76	H	4.37	9.68	22.07	161.06	30.00	-7.93	1/1
30	QPSK	1725.00	17.95	H	4.32	9.57	23.20	208.93	30.00	-6.80	1/158
		1745.00	17.98	H	4.35	9.66	23.29	213.30	30.00	-6.71	1/1
		1765.00	18.28	H	4.37	9.68	23.59	228.56	30.00	-6.41	1/80
	16-QAM	1725.00	16.96	H	4.32	9.57	22.21	166.34	30.00	-7.79	1/158
		1745.00	17.06	H	4.35	9.66	22.37	172.58	30.00	-7.63	1/1
		1765.00	17.28	H	4.37	9.68	22.59	181.55	30.00	-7.41	1/1
25	QPSK	1722.50	17.50	H	4.32	9.56	22.74	187.93	30.00	-7.26	1/67
		1745.00	17.53	H	4.35	9.66	22.84	192.31	30.00	-7.16	1/67
		1767.50	18.00	H	4.38	9.68	23.31	214.29	30.00	-6.69	1/67
	16-QAM	1722.50	16.51	H	4.32	9.56	21.75	149.62	30.00	-8.25	1/67
		1745.00	16.72	H	4.35	9.66	22.03	159.59	30.00	-7.97	1/67
		1767.50	16.90	H	4.38	9.68	22.21	166.34	30.00	-7.79	1/1
20	QPSK	1720.00	17.27	H	4.32	9.55	22.50	177.83	30.00	-7.50	1/104
		1745.00	17.40	H	4.35	9.66	22.71	186.64	30.00	-7.29	1/53
		1770.00	17.96	H	4.38	9.68	23.27	212.32	30.00	-6.73	1/1
	16-QAM	1720.00	16.24	H	4.32	9.55	21.47	140.28	30.00	-8.53	1/104
		1745.00	16.59	H	4.35	9.66	21.90	154.88	30.00	-8.10	1/53
		1770.00	16.76	H	4.38	9.68	22.07	161.06	30.00	-7.93	1/1
15	QPSK	1717.50	17.61	H	4.31	9.53	22.83	191.87	30.00	-7.17	1/77
		1745.00	17.50	H	4.35	9.66	22.81	190.99	30.00	-7.19	1/1
		1772.50	18.03	H	4.38	9.68	23.33	215.28	30.00	-6.67	1/77
	16-QAM	1717.50	16.22	H	4.31	9.53	21.44	139.32	30.00	-8.56	1/77
		1745.00	16.64	H	4.35	9.66	21.95	156.68	30.00	-8.05	1/1
		1772.50	16.74	H	4.38	9.68	22.04	159.96	30.00	-7.96	1/1
10	QPSK	1715.00	17.37	H	4.31	9.52	22.58	181.13	30.00	-7.42	1/26
		1745.00	17.69	H	4.35	9.66	23.00	199.53	30.00	-7.00	1/1
		1775.00	18.20	H	4.38	9.68	23.50	223.87	30.00	-6.50	1/26
	16-QAM	1715.00	16.22	H	4.31	9.52	21.43	139.00	30.00	-8.57	1/50
		1745.00	16.87	H	4.35	9.66	22.18	165.20	30.00	-7.82	1/1
		1775.00	16.94	H	4.38	9.68	22.24	167.49	30.00	-7.76	1/50
5	QPSK	1712.50	17.40	H	4.31	9.51	22.61	182.39	30.00	-7.39	1/23
		1745.00	17.78	H	4.35	9.66	23.09	203.70	30.00	-6.91	1/23
		1777.50	18.66	H	4.39	9.68	23.96	248.89	30.00	-6.04	1/13
	16-QAM	1712.50	16.40	H	4.31	9.51	21.61	144.88	30.00	-8.39	1/23
		1745.00	17.04	H	4.35	9.66	22.35	171.79	30.00	-7.65	1/13
		1777.50	17.61	H	4.39	9.68	22.91	195.43	30.00	-7.09	1/13

9.2. RADIATIED SPURIOUS EMISSION

RULE PART(S)

FCC: §2.1053, §27. 53

LIMIT

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.

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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(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 RESULTS

LTE Band 12

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-17
Test Engineer:	27089
Configuration:	EUT / AC Adapter, Z-Position
Location:	Chamber 2
Mode:	LTE_QPSK Band 12 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, 701.5MHz									
1403.00	-16.4	V	3.0	40.9	1.0	-56.3	-13.0	-43.3	
2104.50	-13.2	V	3.0	40.9	1.0	-53.1	-13.0	-40.1	
2806.00	-10.7	V	3.0	41.9	1.0	-51.6	-13.0	-38.6	
1403.00	-17.5	H	3.0	40.9	1.0	-57.3	-13.0	-44.3	
2104.50	-13.7	H	3.0	40.9	1.0	-53.6	-13.0	-40.6	
2806.00	-10.1	H	3.0	41.9	1.0	-51.0	-13.0	-38.0	
Mid Ch, 707.5MHz									
1415.00	-16.3	V	3.0	40.9	1.0	-56.1	-13.0	-43.1	
2122.50	-13.1	V	3.0	40.9	1.0	-53.0	-13.0	-40.0	
2830.00	-10.7	V	3.0	41.9	1.0	-51.7	-13.0	-38.7	
1415.00	-17.2	H	3.0	40.9	1.0	-57.0	-13.0	-44.0	
2122.50	-13.7	H	3.0	40.9	1.0	-53.6	-13.0	-40.6	
2830.00	-9.9	H	3.0	41.9	1.0	-50.9	-13.0	-37.9	
High Ch, 713.5MHz									
1427.00	-16.1	V	3.0	40.9	1.0	-56.0	-13.0	-43.0	
2140.50	-13.0	V	3.0	41.0	1.0	-53.0	-13.0	-40.0	
2854.00	-10.5	V	3.0	42.0	1.0	-51.4	-13.0	-38.4	
1427.00	-17.2	H	3.0	40.9	1.0	-57.0	-13.0	-44.0	
2140.50	-13.6	H	3.0	41.0	1.0	-53.5	-13.0	-40.5	
2854.00	-9.7	H	3.0	42.0	1.0	-50.7	-13.0	-37.7	

10 MHz

QPSK

ANT E

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-18
Test Engineer:	26460
Configuration:	EUT / AC Adapter, Z-Position
Location:	Chamber 2
Mode:	LTE_QPSK Band 12 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, 704MHz									
1408.00	-16.1	V	3.0	40.9	1.0	-56.0	-13.0	-43.0	
2112.00	-13.1	V	3.0	40.9	1.0	-53.0	-13.0	-40.0	
2816.00	-10.5	V	3.0	41.9	1.0	-51.5	-13.0	-38.5	
1408.00	-17.2	H	3.0	40.9	1.0	-57.1	-13.0	-44.1	
2112.00	-13.7	H	3.0	40.9	1.0	-53.6	-13.0	-40.6	
2816.00	-9.9	H	3.0	41.9	1.0	-50.9	-13.0	-37.9	
Mid Ch, 707.5MHz									
1415.00	-16.2	V	3.0	40.9	1.0	-56.1	-13.0	-43.1	
2122.50	-13.1	V	3.0	40.9	1.0	-53.0	-13.0	-40.0	
2830.00	-10.6	V	3.0	41.9	1.0	-51.5	-13.0	-38.5	
1415.00	-17.2	H	3.0	40.9	1.0	-57.0	-13.0	-44.0	
2122.50	-13.6	H	3.0	40.9	1.0	-53.5	-13.0	-40.5	
2830.00	-9.9	H	3.0	41.9	1.0	-50.8	-13.0	-37.8	
High Ch, 711MHz									
1422.00	-16.1	V	3.0	40.9	1.0	-55.9	-13.0	-42.9	
2133.00	-12.9	V	3.0	40.9	1.0	-52.9	-13.0	-39.9	
2844.00	-10.5	V	3.0	42.0	1.0	-51.4	-13.0	-38.4	
1422.00	-17.2	H	3.0	40.9	1.0	-57.0	-13.0	-44.0	
2133.00	-13.5	H	3.0	40.9	1.0	-53.5	-13.0	-40.5	
2844.00	-9.8	H	3.0	42.0	1.0	-50.8	-13.0	-37.8	

LTE Band 13

5 MHz
QPSK
ANT A

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-14
Test Engineer:	26460
Configuration:	EUT, X-Position
Location:	Chamber 2
Mode:	LTE_QPSK Band 13 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, 779.5MHz									
1559.00	-28.9	V	3.0	40.8	1.0	-68.7	-40.0	-28.7	
2338.50	-12.2	V	3.0	41.2	1.0	-52.4	-13.0	-39.4	
3118.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6	
1559.00	-30.9	H	3.0	40.8	1.0	-70.7	-40.0	-30.7	
2338.50	-12.3	H	3.0	41.2	1.0	-52.6	-13.0	-39.6	
3118.00	-8.7	H	3.0	42.2	1.0	-49.9	-13.0	-36.9	
Mid Ch, 782MHz									
1564.00	-28.8	V	3.0	40.8	1.0	-68.7	-40.0	-28.7	
2346.00	-12.2	V	3.0	41.2	1.0	-52.5	-13.0	-39.5	
3128.00	-9.4	V	3.0	42.2	1.0	-50.6	-13.0	-37.6	
1564.00	-30.8	H	3.0	40.8	1.0	-70.6	-40.0	-30.6	
2346.00	-12.4	H	3.0	41.2	1.0	-52.6	-13.0	-39.6	
3128.00	-8.6	H	3.0	42.2	1.0	-49.8	-13.0	-36.8	
High Ch, 784.5MHz									
1569.00	-29.3	V	3.0	40.8	1.0	-69.1	-40.0	-29.1	
2353.50	-12.2	V	3.0	41.3	1.0	-52.5	-13.0	-39.5	
3138.00	-9.3	V	3.0	42.2	1.0	-50.5	-13.0	-37.5	
1569.00	-31.1	H	3.0	40.8	1.0	-70.9	-40.0	-30.9	
2353.50	-12.4	H	3.0	41.3	1.0	-52.6	-13.0	-39.6	
3138.00	-8.7	H	3.0	42.2	1.0	-49.8	-13.0	-36.8	

10 MHz
QPSK
ANT E

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-14
Test Engineer:	28775
Configuration:	EUT / AC Adapter, X-Position
Location:	Chamber 1
Mode:	LTE_QPSK Band 13 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, 782MHz									
1564.00	-19.6	V	3.0	43.3	1.0	-61.9	-40.0	-21.9	
2346.00	-12.4	V	3.0	43.5	1.0	-54.9	-13.0	-41.9	
3128.00	-10.2	V	3.0	43.8	1.0	-53.0	-13.0	-40.0	
1564.00	-17.9	H	3.0	43.3	1.0	-60.2	-40.0	-20.2	
2346.00	-12.9	H	3.0	43.5	1.0	-55.5	-13.0	-42.5	
3128.00	-9.8	H	3.0	43.8	1.0	-52.6	-13.0	-39.6	

LTE Band 41

20 MHz

QPSK

ANT B

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

Company: Samsung
Project #: 4790976580
Date: 2023-12-17
Test Engineer: 28775
Configuration: EUT / AC Adapter, X-Position
Location: Chamber 1
Mode: LTE_QPSK Band 41 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, 2506MHz									
5012.00	-15.2	V	3.0	44.8	1.0	-58.9	-25.0	-33.9	
7518.00	-9.1	V	3.0	44.9	1.0	-53.0	-25.0	-28.0	
10024.00	-10.3	V	3.0	43.6	1.0	-53.0	-25.0	-28.0	
12530.00	-8.7	V	3.0	43.5	1.0	-51.2	-25.0	-26.2	
5012.00	-16.0	H	3.0	44.8	1.0	-59.8	-25.0	-34.8	
7518.00	-9.1	H	3.0	44.9	1.0	-53.0	-25.0	-28.0	
10024.00	-11.0	H	3.0	43.6	1.0	-53.6	-25.0	-28.6	
12530.00	-8.6	H	3.0	43.5	1.0	-51.1	-25.0	-26.1	
Mid Ch, 2593MHz									
5186.00	-13.9	V	3.0	44.8	1.0	-57.7	-25.0	-32.7	
7779.00	-10.2	V	3.0	44.8	1.0	-54.1	-25.0	-29.1	
10372.00	-9.5	V	3.0	43.5	1.0	-52.1	-25.0	-27.1	
12965.00	-8.4	V	3.0	43.7	1.0	-51.1	-25.0	-26.1	
5186.00	-14.5	H	3.0	44.8	1.0	-58.3	-25.0	-33.3	
7779.00	-11.5	H	3.0	44.8	1.0	-55.3	-25.0	-30.3	
10372.00	-10.7	H	3.0	43.5	1.0	-53.2	-25.0	-28.2	
12965.00	-7.9	H	3.0	43.7	1.0	-50.6	-25.0	-25.6	
High Ch, 2680MHz									
5360.00	-6.0	V	3.0	44.9	1.0	-49.9	-25.0	-24.9	
8040.00	-7.4	V	3.0	44.7	1.0	-51.2	-25.0	-26.2	
10720.00	-4.5	V	3.0	43.5	1.0	-47.0	-25.0	-22.0	
13400.00	-6.9	V	3.0	44.0	1.0	-49.8	-25.0	-24.8	
5360.00	-5.4	H	3.0	44.9	1.0	-49.3	-25.0	-24.3	
8040.00	-8.6	H	3.0	44.7	1.0	-52.3	-25.0	-27.3	
10720.00	-8.8	H	3.0	43.5	1.0	-51.3	-25.0	-26.3	
13400.00	-7.3	H	3.0	44.0	1.0	-50.3	-25.0	-25.3	

10 MHz

QPSK

ANT F

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

Company: Samsung
Project #: 4790976580
Date: 2023-12-17
Test Engineer: 28775
Configuration: EUT / AC Adapter, Z-Position
Location: Chamber 1
Mode: LTE_QPSK Band 41 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, 2501MHz									
5002.00	-15.0	V	3.0	44.8	1.0	-58.8	-25.0	-33.8	
7503.00	-10.9	V	3.0	45.0	1.0	-54.8	-25.0	-29.8	
10004.00	-10.7	V	3.0	43.6	1.0	-53.3	-25.0	-28.3	
12505.00	-8.7	V	3.0	43.5	1.0	-51.1	-25.0	-26.1	
5002.00	-15.1	H	3.0	44.8	1.0	-58.9	-25.0	-33.9	
7503.00	-11.2	H	3.0	45.0	1.0	-55.2	-25.0	-30.2	
10004.00	-10.6	H	3.0	43.6	1.0	-53.3	-25.0	-28.3	
12505.00	-8.5	H	3.0	43.5	1.0	-51.0	-25.0	-26.0	
Mid Ch, 2593MHz									
5186.00	-15.1	V	3.0	44.8	1.0	-58.9	-25.0	-33.9	
7779.00	-9.0	V	3.0	44.8	1.0	-52.9	-25.0	-27.9	
10372.00	-10.7	V	3.0	43.5	1.0	-53.3	-25.0	-28.3	
12965.00	-7.8	V	3.0	43.7	1.0	-50.5	-25.0	-25.5	
5186.00	-14.8	H	3.0	44.8	1.0	-58.6	-25.0	-33.6	
7779.00	-9.9	H	3.0	44.8	1.0	-53.7	-25.0	-28.7	
10372.00	-10.7	H	3.0	43.5	1.0	-53.2	-25.0	-28.2	
12965.00	-8.2	H	3.0	43.7	1.0	-50.9	-25.0	-25.9	
High Ch, 2685MHz									
5370.00	-14.2	V	3.0	44.9	1.0	-58.1	-25.0	-33.1	
8055.00	-10.6	V	3.0	44.7	1.0	-54.3	-25.0	-29.3	
10740.00	-10.4	V	3.0	43.5	1.0	-52.8	-25.0	-27.8	
13425.00	-7.4	V	3.0	44.0	1.0	-50.4	-25.0	-25.4	
5370.00	-14.0	H	3.0	44.9	1.0	-57.9	-25.0	-32.9	
8055.00	-8.9	H	3.0	44.7	1.0	-52.6	-25.0	-27.6	
10740.00	-10.3	H	3.0	43.5	1.0	-52.7	-25.0	-27.7	
13425.00	-7.6	H	3.0	44.0	1.0	-50.5	-25.0	-25.5	

LTE Band 66

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-15
Test Engineer:	28775
Configuration:	EUT / AC Adapter, Y-Position
Location:	Chamber 1
Mode:	LTE_QPSK Band 66 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, 1712.5MHz									
3425.00	-8.7	V	3.0	44.0	1.0	-51.7	-13.0	-38.7	
5137.50	-6.8	V	3.0	44.8	1.0	-50.6	-13.0	-37.6	
6850.00	-4.4	V	3.0	45.1	1.0	-48.5	-13.0	-35.5	
3425.00	-8.3	H	3.0	44.0	1.0	-51.3	-13.0	-38.3	
5137.50	-6.9	H	3.0	44.8	1.0	-50.7	-13.0	-37.7	
6850.00	-4.3	H	3.0	45.1	1.0	-48.5	-13.0	-35.5	
Mid Ch, 1745MHz									
3490.00	-8.3	V	3.0	44.0	1.0	-51.3	-13.0	-38.3	
5235.00	-6.6	V	3.0	44.8	1.0	-50.4	-13.0	-37.4	
6980.00	-4.3	V	3.0	45.1	1.0	-48.5	-13.0	-35.5	
3490.00	-8.0	H	3.0	44.0	1.0	-51.0	-13.0	-38.0	
5235.00	-6.6	H	3.0	44.8	1.0	-50.5	-13.0	-37.5	
6980.00	-4.2	H	3.0	45.1	1.0	-48.4	-13.0	-35.4	
High Ch, 1777.5MHz									
3555.00	-7.9	V	3.0	44.0	1.0	-50.9	-13.0	-37.9	
5332.50	-6.5	V	3.0	44.9	1.0	-50.4	-13.0	-37.4	
7110.00	-4.0	V	3.0	45.1	1.0	-48.1	-13.0	-35.1	
3555.00	-7.6	H	3.0	44.0	1.0	-50.6	-13.0	-37.6	
5332.50	-6.5	H	3.0	44.9	1.0	-50.4	-13.0	-37.4	
7110.00	-3.9	H	3.0	45.1	1.0	-48.0	-13.0	-35.0	

NR Band n41

50 MHz

QPSK

ANT F

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

Company: Samsung
Project #: 4790976580
Date: 2024-01-09
Test Engineer: 26460
Configuration: EUT / AC Adapter, Y-Position
Location: Chamber 1
Mode: 5G NR_QPSK NR n41 Harmonics, 50MHz 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, 2521.01MHz									
5042.02	-14.0	V	3.0	44.8	1.0	-57.8	-25.0	-32.8	
7563.03	4.8	V	3.0	44.9	1.0	-39.2	-25.0	-14.2	
10084.04	-9.8	V	3.0	43.6	1.0	-52.4	-25.0	-27.4	
12605.05	-8.0	V	3.0	43.5	1.0	-50.5	-25.0	-25.5	
5042.02	-14.4	H	3.0	44.8	1.0	-58.2	-25.0	-33.2	
7563.03	4.2	H	3.0	44.9	1.0	-39.7	-25.0	-14.7	
10084.04	-10.6	H	3.0	43.6	1.0	-53.2	-25.0	-28.2	
12605.05	-8.0	H	3.0	43.5	1.0	-50.5	-25.0	-25.5	
Mid Ch, 2592.99MHz									
5185.98	-9.9	V	3.0	44.8	1.0	-53.8	-25.0	-28.8	
7778.97	-2.6	V	3.0	44.8	1.0	-46.5	-25.0	-21.5	
10371.96	-10.7	V	3.0	43.5	1.0	-53.3	-25.0	-28.3	
12964.95	-7.5	V	3.0	43.7	1.0	-50.2	-25.0	-25.2	
5185.98	-14.0	H	3.0	44.8	1.0	-57.9	-25.0	-32.9	
7778.97	2.3	H	3.0	44.8	1.0	-41.6	-25.0	-16.6	
10371.96	-10.2	H	3.0	43.5	1.0	-52.7	-25.0	-27.7	
12964.95	-7.4	H	3.0	43.7	1.0	-50.1	-25.0	-25.1	
High Ch, 2665MHz									
5330.00	-13.9	V	3.0	44.9	1.0	-57.8	-25.0	-32.8	
7995.00	-3.7	V	3.0	44.8	1.0	-47.5	-25.0	-22.5	
10660.00	-10.1	V	3.0	43.5	1.0	-52.6	-25.0	-27.6	
13325.00	-8.1	V	3.0	43.9	1.0	-51.0	-25.0	-26.0	
5330.00	-13.7	H	3.0	44.9	1.0	-57.6	-25.0	-32.6	
7995.00	1.0	H	3.0	44.8	1.0	-42.7	-25.0	-17.7	
10660.00	-9.7	H	3.0	43.5	1.0	-52.2	-25.0	-27.2	
13325.00	-7.1	H	3.0	43.9	1.0	-50.0	-25.0	-25.0	

50 MHz

QPSK

ANT B

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

Company: Samsung
Project #: 4790976580
Date: 2024-01-09
Test Engineer: 26460
Configuration: EUT / AC Adapter, Z-Position
Location: Chamber 1
Mode: 5G NR_QPSK NR n41 Harmonics, 50MHz 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, 2521.01MHz									
5042.02	-13.3	V	3.0	44.8	1.0	-57.1	-25.0	-32.1	
7563.03	-6.7	V	3.0	44.9	1.0	-50.6	-25.0	-25.6	
10084.04	-10.6	V	3.0	43.6	1.0	-53.2	-25.0	-28.2	
12605.05	-7.6	V	3.0	43.5	1.0	-50.1	-25.0	-25.1	
5042.02	-12.0	H	3.0	44.8	1.0	-55.8	-25.0	-30.8	
7563.03	-4.5	H	3.0	44.9	1.0	-48.5	-25.0	-23.5	
10084.04	-9.5	H	3.0	43.6	1.0	-52.2	-25.0	-27.2	
12605.05	-7.8	H	3.0	43.5	1.0	-50.4	-25.0	-25.4	
Mid Ch, 2592.99MHz									
5185.98	-15.0	V	3.0	44.8	1.0	-58.8	-25.0	-33.8	
7778.97	-7.3	V	3.0	44.8	1.0	-51.2	-25.0	-26.2	
10371.96	-10.6	V	3.0	43.5	1.0	-53.2	-25.0	-28.2	
12964.95	-8.1	V	3.0	43.7	1.0	-50.8	-25.0	-25.8	
5185.98	-14.7	H	3.0	44.8	1.0	-58.6	-25.0	-33.6	
7778.97	-8.1	H	3.0	44.8	1.0	-52.0	-25.0	-27.0	
10371.96	-9.9	H	3.0	43.5	1.0	-52.5	-25.0	-27.5	
12964.95	-7.8	H	3.0	43.7	1.0	-50.5	-25.0	-25.5	
High Ch, 2665MHz									
5330.00	-11.4	V	3.0	44.9	1.0	-55.3	-25.0	-30.3	
7995.00	-6.0	V	3.0	44.8	1.0	-49.8	-25.0	-24.8	
10660.00	-9.9	V	3.0	43.5	1.0	-52.4	-25.0	-27.4	
13325.00	-7.2	V	3.0	43.9	1.0	-50.2	-25.0	-25.2	
5330.00	-9.9	H	3.0	44.9	1.0	-53.8	-25.0	-28.8	
7995.00	-4.9	H	3.0	44.8	1.0	-48.6	-25.0	-23.6	
10660.00	-7.5	H	3.0	43.5	1.0	-50.0	-25.0	-25.0	
13325.00	-7.5	H	3.0	43.9	1.0	-50.4	-25.0	-25.4	

NR Band n66

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

Company:	Samsung
Project #:	4790976580
Date:	2023-12-17
Test Engineer:	27089
Configuration:	EUT / AC Adapter, X-Position
Location:	Chamber 2
Mode:	5G NR_QPSK NR n66 Harmonics, 30MHz Bandwidth
Test Votage:	AC 120 V, 60 Hz

30 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, 1725MHz									
3450.00	-8.4	V	3.0	42.2	1.0	-49.6	-13.0	-36.6	
5175.00	-9.0	V	3.0	42.9	1.0	-51.0	-13.0	-38.0	
6900.00	-5.8	V	3.0	42.9	1.0	-47.7	-13.0	-34.7	
3450.00	-8.1	H	3.0	42.2	1.0	-49.3	-13.0	-36.3	
5175.00	-9.1	H	3.0	42.9	1.0	-51.0	-13.0	-38.0	
6900.00	-6.3	H	3.0	42.9	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1745MHz									
3490.00	-8.3	V	3.0	42.2	1.0	-49.5	-13.0	-36.5	
5235.00	-8.9	V	3.0	43.0	1.0	-50.9	-13.0	-37.9	
6980.00	-5.7	V	3.0	42.8	1.0	-47.6	-13.0	-34.6	
3490.00	-8.1	H	3.0	42.2	1.0	-49.3	-13.0	-36.3	
5235.00	-9.0	H	3.0	43.0	1.0	-51.0	-13.0	-38.0	
6980.00	-6.1	H	3.0	42.8	1.0	-48.0	-13.0	-35.0	
High Ch, 1765MHz									
3530.00	-7.2	V	3.0	42.2	1.0	-48.4	-13.0	-35.4	
5295.00	-8.5	V	3.0	43.0	1.0	-50.4	-13.0	-37.4	
7060.00	-5.6	V	3.0	42.8	1.0	-47.4	-13.0	-34.4	
3530.00	-7.0	H	3.0	42.2	1.0	-48.2	-13.0	-35.2	
5295.00	-8.6	H	3.0	43.0	1.0	-50.6	-13.0	-37.6	
7060.00	-6.1	H	3.0	42.8	1.0	-47.9	-13.0	-34.9	

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

Company:	Samsung
Project #:	4790976580
Date:	2024-01-16
Test Engineer:	28775
Configuration:	EUT / AC Adapter, X-Position
Location:	Chamber 2
Mode:	5G NR_QPSK NR n66 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, 1712.5MHz									
3425.00	-8.4	V	3.0	42.2	1.0	-49.6	-13.0	-36.6	
5137.50	-9.1	V	3.0	42.9	1.0	-51.1	-13.0	-38.1	
6850.00	-6.1	V	3.0	42.9	1.0	-48.0	-13.0	-35.0	
3425.00	-8.2	H	3.0	42.2	1.0	-49.4	-13.0	-36.4	
5137.50	-9.3	H	3.0	42.9	1.0	-51.2	-13.0	-38.2	
6850.00	-6.5	H	3.0	42.9	1.0	-48.3	-13.0	-35.3	
Mid Ch, 1745MHz									
3490.00	-8.3	V	3.0	42.2	1.0	-49.5	-13.0	-36.5	
5235.00	-8.9	V	3.0	43.0	1.0	-50.9	-13.0	-37.9	
6980.00	-5.9	V	3.0	42.8	1.0	-47.7	-13.0	-34.7	
3490.00	-8.2	H	3.0	42.2	1.0	-49.4	-13.0	-36.4	
5235.00	-9.0	H	3.0	43.0	1.0	-51.0	-13.0	-38.0	
6980.00	-6.2	H	3.0	42.8	1.0	-48.1	-13.0	-35.1	
High Ch, 1777.5MHz									
3555.00	-7.6	V	3.0	42.2	1.0	-48.8	-13.0	-35.8	
5332.50	-8.7	V	3.0	43.0	1.0	-50.6	-13.0	-37.6	
7110.00	-5.6	V	3.0	42.8	1.0	-47.4	-13.0	-34.4	
3555.00	-7.5	H	3.0	42.2	1.0	-48.7	-13.0	-35.7	
5332.50	-8.8	H	3.0	43.0	1.0	-50.8	-13.0	-37.8	
7110.00	-6.1	H	3.0	42.8	1.0	-47.8	-13.0	-34.8	

END OF REPORT