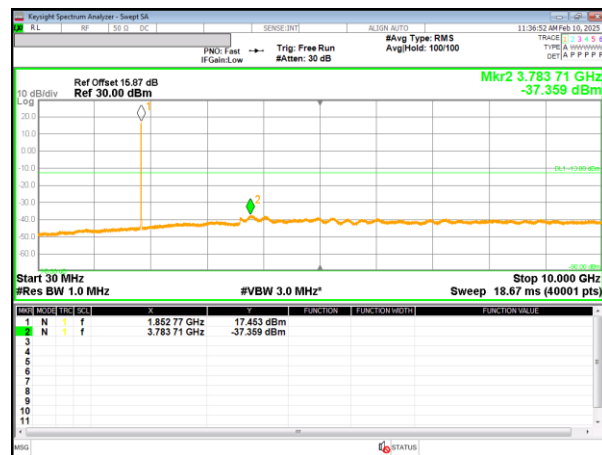
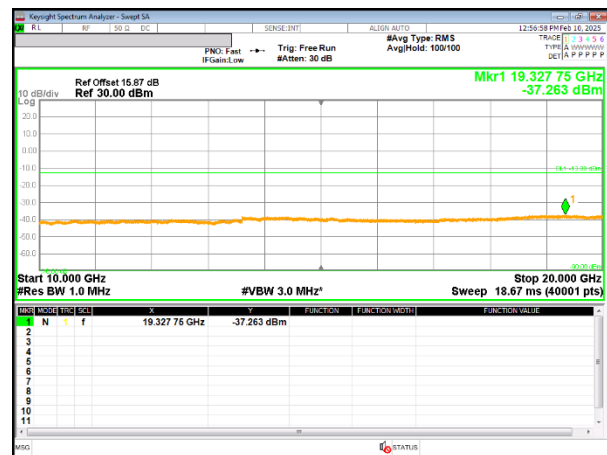


WCDMA Band 2

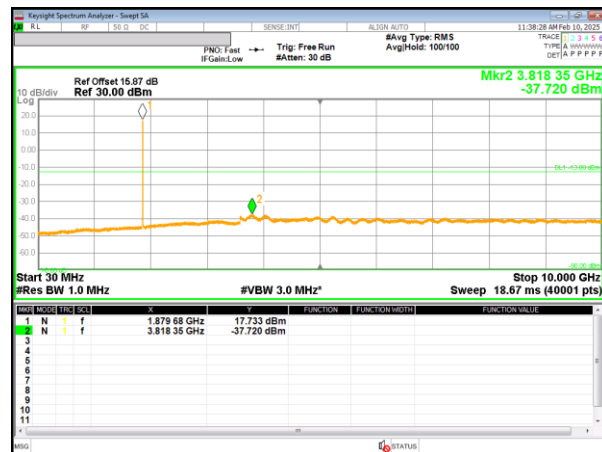
REL99



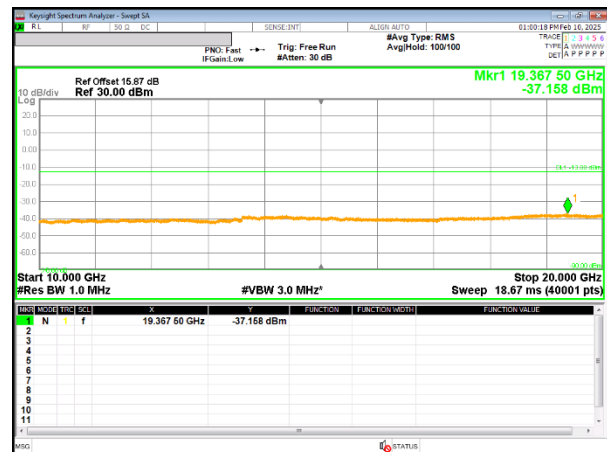
Low channel



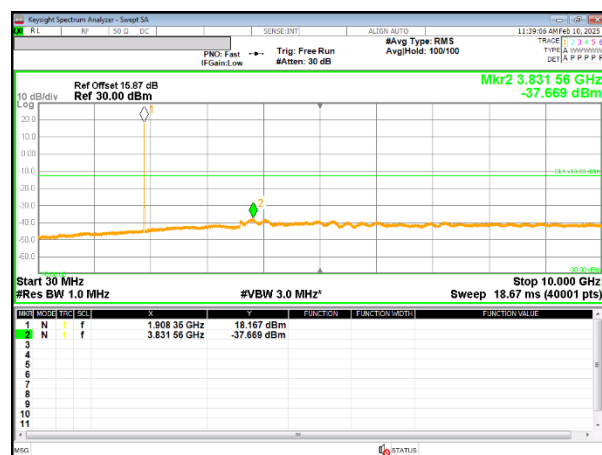
Low channel



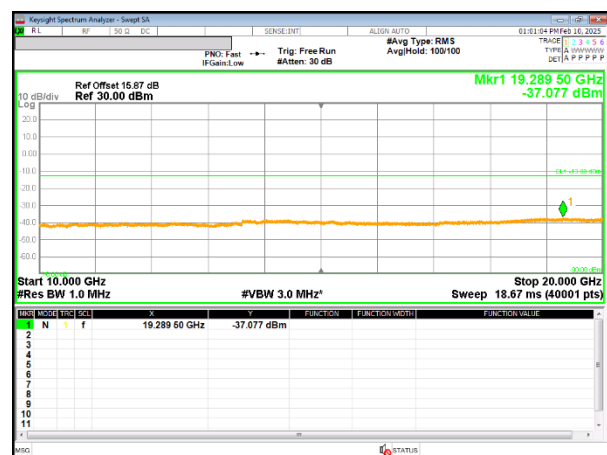
Mid channel



Mid channel



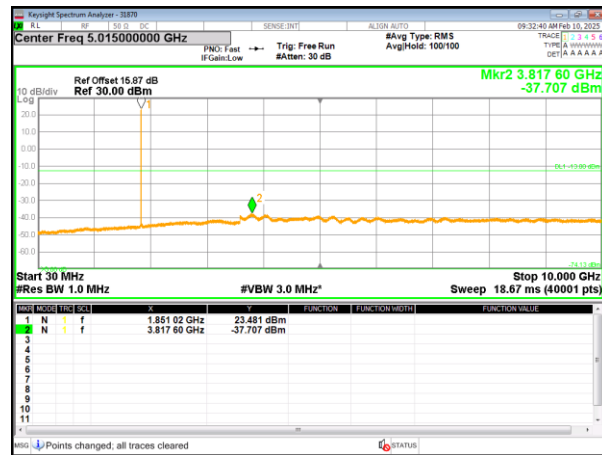
High channel



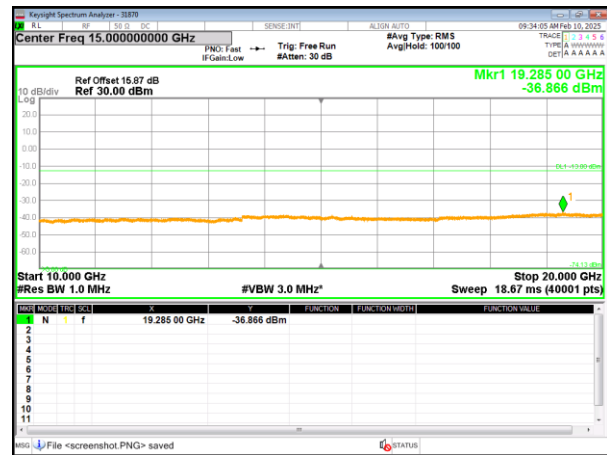
High channel

LTE Band 25 (ANT A)

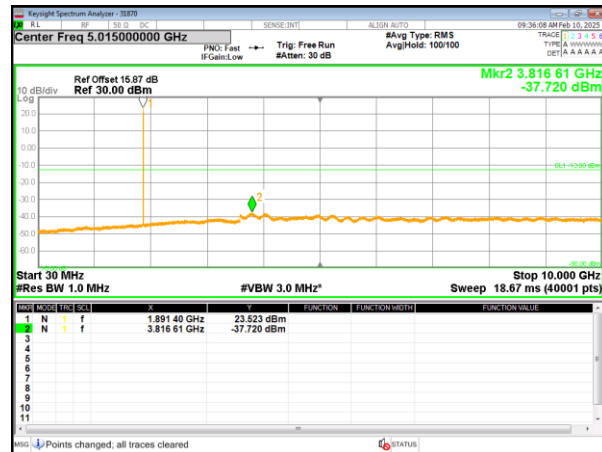
20MHz QPSK



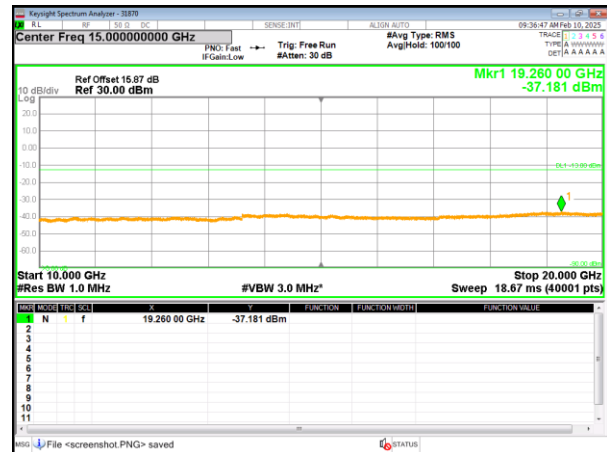
Low channel



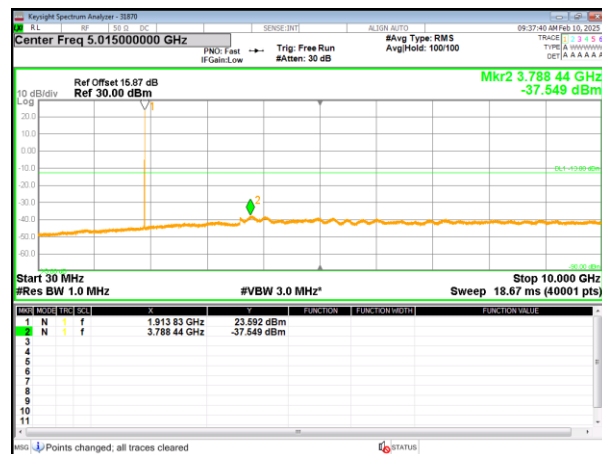
Low channel



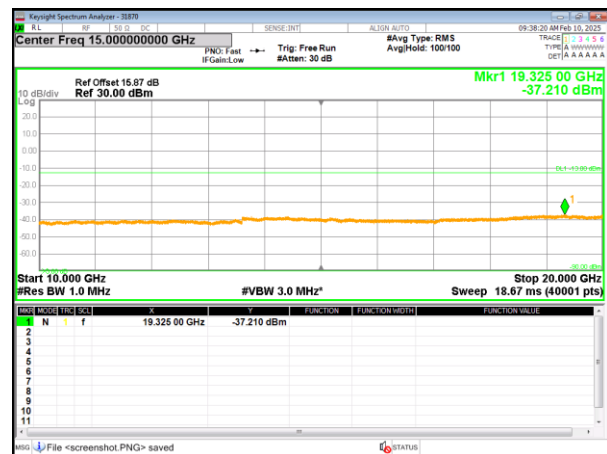
Mid channel



Mid channel



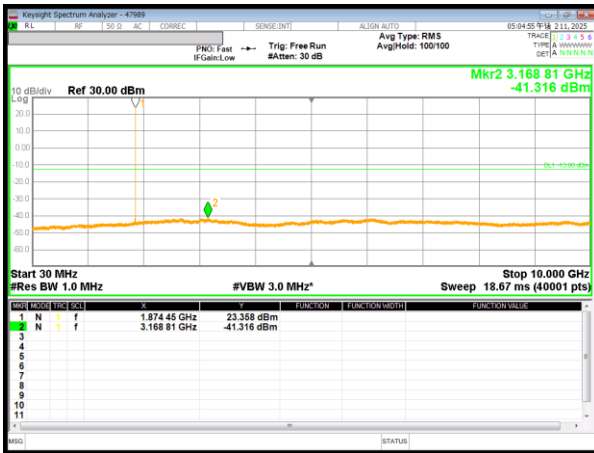
High channel



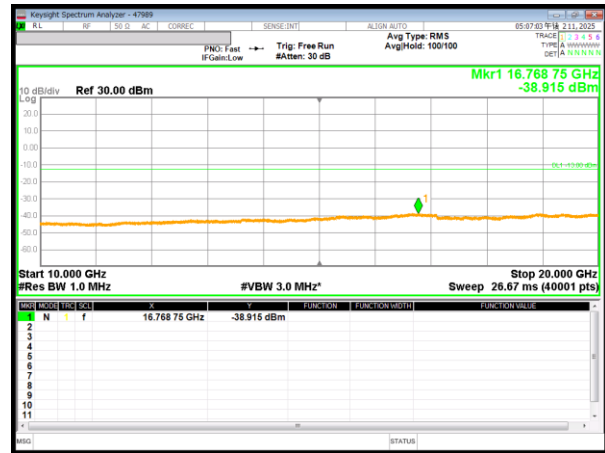
High channel

NR Band n25 DFT-s OFDM (ANT A)

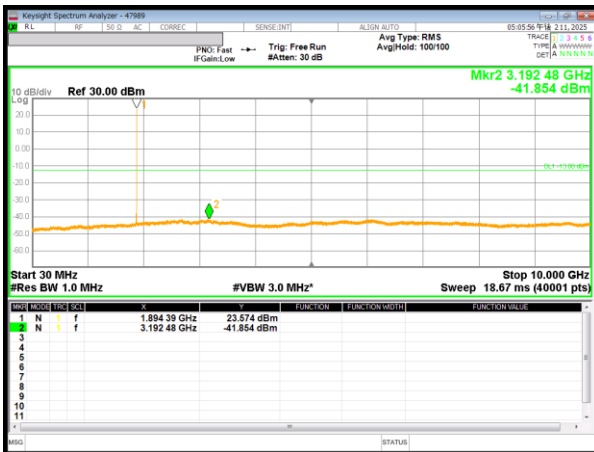
25MHz BPSK



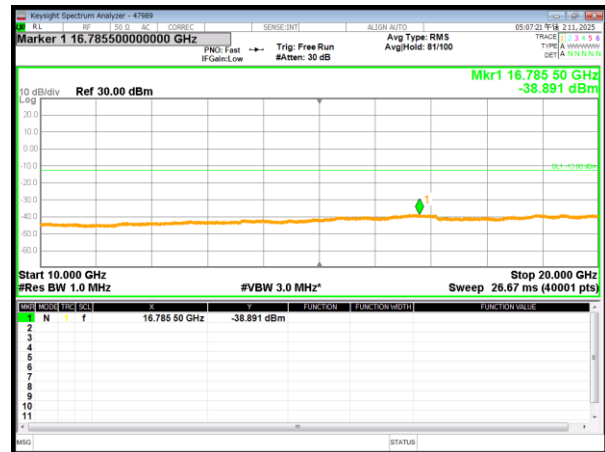
Low channel



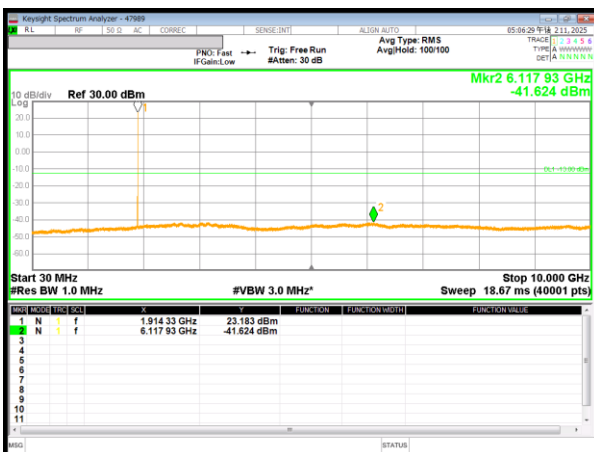
Low channel



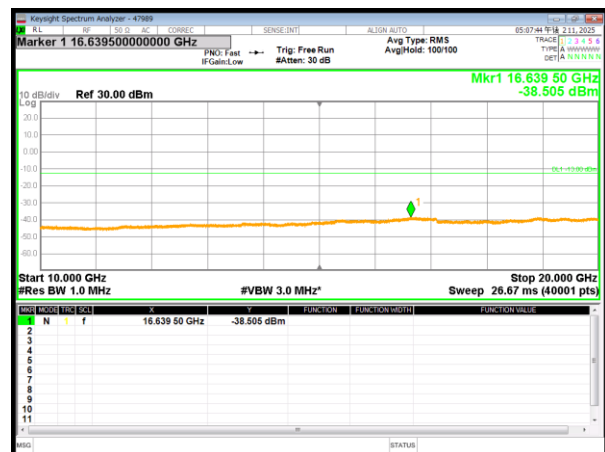
Mid channel



Mid channel



High channel



High channel

8.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §24.235

LIMITS

§24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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 OBW results)

RESULTS

See the following pages.

8.6.1. FREQUENCY STABILITY RESULT

GSM 1900, Channel 512/810, Frequency 1850.0/1910.0 MHz

(Lowest Frequency: EGPRS / Highest Frequency: GPRS) (ANT A)

Test Date	2025-01-24
Test Engineer	47989

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.0777	1909.9209		
Extreme (50C)		1850.0778	1909.9210	52.5	0.028
Extreme (40C)		1850.0778	1909.9210	48.6	0.026
Extreme (30C)		1850.0778	1909.9210	44.1	0.023
Extreme (10C)		1850.0778	1909.9210	42.9	0.023
Extreme (0C)		1850.0778	1909.9210	38.5	0.020
Extreme (-10C)		1850.0778	1909.9210	33.4	0.018
Extreme (-20C)		1850.0778	1909.9210	30.6	0.016
Extreme (-30C)		1850.0778	1909.9210	28.5	0.015
20C	15%	1850.0778	1909.9210	49.8	0.026
	-15%	1850.0778	1909.9210	24.3	0.013
	End Point	1850.0778	1909.9210	21.2	0.011

WCDMA Band 2 (Lowest Frequency: HSDPA / Highest Frequency: HSDPA) (ANT A)

Test Date	2025-01-27
Test Engineer	47989

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.3220	1909.6769		
Extreme (50C)		1850.3220	1909.6769	47.5	0.025
Extreme (40C)		1850.3220	1909.6769	45.8	0.024
Extreme (30C)		1850.3220	1909.6769	41.2	0.022
Extreme (10C)		1850.3220	1909.6769	37.5	0.020
Extreme (0C)		1850.3220	1909.6769	34.1	0.018
Extreme (-10C)		1850.3220	1909.6769	25.3	0.013
Extreme (-20C)		1850.3220	1909.6769	26.4	0.014
Extreme (-30C)		1850.3220	1909.6769	21.8	0.012
20C	15%	1850.3220	1909.6769	48.4	0.026
	-15%	1850.3220	1909.6769	23.4	0.012
	End Point	1850.3220	1909.6769	21.1	0.011

LTE Band 25 (Lowest Frequency: QPSK / Highest Frequency: 16QAM) (ANT A)

Test Date	2025-01-08
Test Engineer	47989

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.1540	1914.8462		
Extreme (50C)		1850.1540	1914.8463	51.0	0.027
Extreme (40C)		1850.1540	1914.8462	47.6	0.025
Extreme (30C)		1850.1540	1914.8462	44.4	0.024
Extreme (10C)		1850.1540	1914.8462	41.7	0.022
Extreme (0C)		1850.1540	1914.8462	38.8	0.021
Extreme (-10C)		1850.1540	1914.8462	35.5	0.019
Extreme (-20C)		1850.1540	1914.8462	32.7	0.017
Extreme (-30C)		1850.1540	1914.8462	29.2	0.016
20C	15%	1850.1540	1914.8462	47.9	0.025
	-15%	1850.1540	1914.8462	23.4	0.012
	End Point	1850.1540	1914.8462	21.5	0.011

NR Band n25 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM) (ANT A)

Test Date	2025-01-17
Test Engineer	47989

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ End of OBW	F high @ End of OBW		
Temperature	Voltage	(MHz)	(MHz)		
Normal (20C)	Normal	1850.2571	1914.7397		
Extreme (50C)		1850.2571	1914.7397	49.3	0.026
Extreme (40C)		1850.2571	1914.7397	47.3	0.025
Extreme (30C)		1850.2571	1914.7397	44.0	0.023
Extreme (10C)		1850.2571	1914.7397	41.2	0.022
Extreme (0C)		1850.2571	1914.7397	38.2	0.020
Extreme (-10C)		1850.2571	1914.7397	34.7	0.018
Extreme (-20C)		1850.2571	1914.7397	31.8	0.017
Extreme (-30C)		1850.2571	1914.7397	29.7	0.016
20C	15%	1850.2571	1914.7397	47.6	0.025
	-15%	1850.2571	1914.7397	23.7	0.013
	End Point	1850.2571	1914.7397	19.5	0.010

9. RADIATED RESULTS

9.1. RADIATED POWER (EIRP)

RULE PART(S)

FCC: §2.1046, §24.232

LIMITS

§24.232(c)

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

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

TEST RESULTS

See the following pages.

9.1.1. EIRP RESULT

GSM (ANT A)

Band	Mode	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
GSM 1900	GPRS	1850.20	23.93	H	4.50	9.48	28.92	779.83	33.00	-4.08
		1880.00	25.74	H	4.53	9.20	30.41	1099.01	33.00	-2.59
		1909.80	26.94	H	4.57	8.86	31.24	1330.45	33.00	-1.76
	EGPRS	1850.20	21.61	H	4.50	9.48	26.60	457.09	33.00	-6.40
		1880.00	22.98	H	4.53	9.20	27.65	582.10	33.00	-5.35
		1909.80	23.94	H	4.57	8.86	28.24	666.81	33.00	-4.76

WCDMA Band 2 (ANT A)

Band	Mode	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Limit (dBm)	Delta (dB)
Band 2	REL99	1852.40	19.34	H	4.50	9.46	24.30	269.15	33.00	-8.70
		1880.00	20.67	H	4.53	9.20	25.34	341.98	33.00	-7.66
		1907.60	21.55	H	4.56	8.89	25.88	387.26	33.00	-7.12
	HSDPA	1852.40	18.18	H	4.50	9.46	23.14	206.06	33.00	-9.86
		1880.00	19.53	H	4.53	9.20	24.20	263.03	33.00	-8.80
		1907.60	20.13	H	4.56	8.89	24.46	279.25	33.00	-8.54

LTE Band 25 (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	1860.00	19.62	H	4.51	9.39	24.50	281.84	33.00	-8.50	1/0
		1882.50	20.01	H	4.53	9.17	24.65	291.74	33.00	-8.35	1/99
		1905.00	21.05	H	4.56	8.93	25.42	348.34	33.00	-7.58	1/49
	16-QAM	1860.00	18.76	H	4.51	9.39	23.64	231.21	33.00	-9.36	1/49
		1882.50	19.19	H	4.53	9.17	23.83	241.55	33.00	-9.17	1/49
		1905.00	20.46	H	4.56	8.93	24.83	304.09	33.00	-8.17	1/49
15	QPSK	1857.50	19.64	H	4.50	9.41	24.55	285.10	33.00	-8.45	1/74
		1882.50	19.32	H	4.53	9.17	23.96	248.89	33.00	-9.04	1/0
		1907.50	21.01	H	4.56	8.89	25.34	341.98	33.00	-7.66	1/0
	16-QAM	1857.50	18.87	H	4.50	9.41	23.78	238.78	33.00	-9.22	1/74
		1882.50	18.93	H	4.53	9.17	23.57	227.51	33.00	-9.43	1/74
		1907.50	20.98	H	4.56	8.89	25.31	339.63	33.00	-7.69	1/74
10	QPSK	1855.00	19.35	H	4.50	9.43	24.28	267.92	33.00	-8.72	1/0
		1882.50	19.25	H	4.53	9.17	23.89	244.91	33.00	-9.11	1/0
		1910.00	21.28	H	4.57	8.85	25.57	360.58	33.00	-7.43	1/49
	16-QAM	1855.00	18.70	H	4.50	9.43	23.63	230.67	33.00	-9.37	1/0
		1882.50	19.21	H	4.53	9.17	23.85	242.66	33.00	-9.15	1/25
		1910.00	20.43	H	4.57	8.85	24.72	296.48	33.00	-8.28	1/25
5	QPSK	1852.50	19.35	H	4.50	9.46	24.31	269.77	33.00	-8.69	1/12
		1882.50	19.40	H	4.53	9.17	24.04	253.51	33.00	-8.96	1/24
		1912.50	21.41	H	4.57	8.82	25.65	367.28	33.00	-7.35	1/24
	16-QAM	1852.50	18.48	H	4.50	9.46	23.44	220.80	33.00	-9.56	1/24
		1882.50	19.19	H	4.53	9.17	23.83	241.55	33.00	-9.17	1/0
		1912.50	20.65	H	4.57	8.82	24.89	308.32	33.00	-8.11	1/12
3	QPSK	1851.50	19.46	H	4.50	9.47	24.43	277.33	33.00	-8.57	1/0
		1882.50	19.18	H	4.53	9.20	23.85	242.66	33.00	-9.15	1/8
		1913.50	21.26	H	4.57	8.88	25.57	360.58	33.00	-7.43	1/14
	16-QAM	1851.50	18.66	H	4.50	9.47	23.63	230.67	33.00	-9.37	1/14
		1882.50	18.99	H	4.53	9.20	23.66	232.27	33.00	-9.34	1/14
		1913.50	20.56	H	4.57	8.88	24.87	306.90	33.00	-8.13	1/8
1.4	QPSK	1850.70	19.31	H	4.50	9.48	24.29	268.53	33.00	-8.71	1/5
		1882.50	19.35	H	4.53	9.20	24.02	252.35	33.00	-8.98	1/5
		1914.30	21.19	H	4.57	8.87	25.48	353.18	33.00	-7.52	1/5
	16-QAM	1850.70	18.46	H	4.50	9.48	23.44	220.80	33.00	-9.56	1/5
		1882.50	19.30	H	4.53	9.20	23.97	249.46	33.00	-9.03	1/0
		1914.30	20.89	H	4.57	8.87	25.18	329.61	33.00	-7.82	1/3

LTE Band 25 (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
20	QPSK	1860.00	17.08	V	4.51	9.39	21.96	157.04	33.00	-11.04	1/0
		1882.50	16.92	V	4.53	9.17	21.56	143.22	33.00	-11.44	1/49
		1905.00	17.62	V	4.56	8.93	21.99	158.12	33.00	-11.01	1/49
	16-QAM	1860.00	16.44	V	4.51	9.39	21.32	135.52	33.00	-11.68	1/49
		1882.50	16.10	V	4.53	9.17	20.74	118.58	33.00	-12.26	1/99
		1905.00	17.03	V	4.56	8.93	21.40	138.04	33.00	-11.60	1/99
15	QPSK	1857.50	17.01	V	4.50	9.41	21.92	155.60	33.00	-11.08	1/37
		1882.50	16.75	V	4.53	9.17	21.39	137.72	33.00	-11.61	1/37
		1907.50	17.59	V	4.56	8.89	21.92	155.60	33.00	-11.08	1/37
	16-QAM	1857.50	16.23	V	4.50	9.41	21.14	130.02	33.00	-11.86	1/0
		1882.50	15.88	V	4.53	9.17	20.52	112.72	33.00	-12.48	1/0
		1907.50	17.15	V	4.56	8.89	21.48	140.60	33.00	-11.52	1/0
10	QPSK	1855.00	16.95	V	4.50	9.43	21.88	154.17	33.00	-11.12	1/0
		1882.50	16.87	V	4.53	9.17	21.51	141.58	33.00	-11.49	1/25
		1910.00	17.56	V	4.57	8.85	21.85	153.11	33.00	-11.15	1/0
	16-QAM	1855.00	16.15	V	4.50	9.43	21.08	128.23	33.00	-11.92	1/25
		1882.50	16.14	V	4.53	9.17	20.78	119.67	33.00	-12.22	1/25
		1910.00	17.30	V	4.57	8.85	21.59	144.21	33.00	-11.41	1/0
5	QPSK	1852.50	16.87	V	4.50	9.46	21.83	152.41	33.00	-11.17	1/12
		1882.50	16.99	V	4.53	9.17	21.63	145.55	33.00	-11.37	1/12
		1912.50	17.75	V	4.57	8.82	22.00	158.49	33.00	-11.00	1/12
	16-QAM	1852.50	16.25	V	4.50	9.46	21.21	132.13	33.00	-11.79	1/12
		1882.50	16.30	V	4.53	9.17	20.94	124.17	33.00	-12.06	1/124
		1912.50	17.74	V	4.57	8.82	21.99	158.12	33.00	-11.01	1/12
3	QPSK	1851.50	16.59	V	4.50	9.47	21.56	143.22	33.00	-11.44	1/8
		1882.50	16.39	V	4.53	9.20	21.06	127.64	33.00	-11.94	1/8
		1913.50	17.47	V	4.57	8.88	21.78	150.66	33.00	-11.22	1/14
	16-QAM	1851.50	16.11	V	4.50	9.47	21.08	128.23	33.00	-11.92	1/14
		1882.50	15.83	V	4.53	9.20	20.50	112.20	33.00	-12.50	1/8
		1913.50	17.50	V	4.57	8.88	21.81	151.71	33.00	-11.19	1/8
1.4	QPSK	1850.70	16.91	V	4.50	9.48	21.89	154.53	33.00	-11.11	1/0
		1882.50	16.69	V	4.53	9.20	21.36	136.77	33.00	-11.64	1/0
		1914.30	18.18	V	4.57	8.87	22.47	176.60	33.00	-10.53	1/3
	16-QAM	1850.70	16.01	V	4.50	9.48	20.99	125.60	33.00	-12.01	1/0
		1882.50	15.88	V	4.53	9.20	20.55	113.50	33.00	-12.45	1/5
		1914.30	17.79	V	4.57	8.87	22.08	161.44	33.00	-10.92	1/5

NR Band n25 DFT-s 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	π/2 BPSK	1870.00	19.65	H	4.52	9.29	24.43	277.33	33.00	-8.57	1/214
		1882.50	20.08	H	4.53	9.17	24.73	297.17	33.00	-8.27	1/214
		1895.00	20.77	H	4.55	9.05	25.28	337.29	33.00	-7.72	1/214
	16-QAM	1870.00	18.43	H	4.52	9.29	23.21	209.41	33.00	-9.79	1/1
		1882.50	19.02	H	4.53	9.17	23.67	232.81	33.00	-9.33	1/214
		1895.00	19.93	H	4.55	9.05	24.43	277.33	33.00	-8.57	1/214
35	π/2 BPSK	1867.50	19.75	H	4.51	9.32	24.55	285.10	33.00	-8.45	1/186
		1882.50	20.04	H	4.53	9.17	24.68	293.76	33.00	-8.32	1/93
		1897.50	20.99	H	4.55	9.03	25.47	352.37	33.00	-7.53	1/186
	16-QAM	1867.50	17.31	H	4.51	9.32	22.11	162.55	33.00	-10.89	1/186
		1882.50	17.99	H	4.53	9.17	22.63	183.23	33.00	-10.37	1/93
		1897.50	18.80	H	4.55	9.03	23.28	212.81	33.00	-9.72	1/186
30	π/2 BPSK	1865.00	19.66	H	4.51	9.34	24.49	281.19	33.00	-8.51	1/158
		1882.50	20.21	H	4.53	9.17	24.85	305.49	33.00	-8.15	1/158
		1900.00	21.06	H	4.55	9.01	25.51	355.63	33.00	-7.49	1/158
	16-QAM	1865.00	18.89	H	4.51	9.34	23.72	235.50	33.00	-9.28	1/158
		1882.50	19.86	H	4.53	9.17	24.50	281.84	33.00	-8.50	1/80
		1900.00	20.96	H	4.55	9.01	25.41	347.54	33.00	-7.59	1/1
25	π/2 BPSK	1862.50	19.48	H	4.51	9.36	24.34	271.64	33.00	-8.66	1/131
		1882.50	20.09	H	4.53	9.17	24.73	297.17	33.00	-8.27	1/131
		1902.50	21.10	H	4.56	8.97	25.51	355.63	33.00	-7.49	1/131
	16-QAM	1862.50	18.78	H	4.51	9.36	23.64	231.21	33.00	-9.36	1/1
		1882.50	19.84	H	4.53	9.17	24.48	280.54	33.00	-8.52	1/1
		1902.50	21.08	H	4.56	8.97	25.49	354.00	33.00	-7.51	1/1
20	π/2 BPSK	1860.00	19.38	H	4.51	9.39	24.26	266.69	33.00	-8.74	1/1
		1882.50	19.96	H	4.53	9.17	24.60	288.40	33.00	-8.40	1/104
		1905.00	20.96	H	4.56	8.93	25.33	341.19	33.00	-7.67	1/104
	16-QAM	1860.00	18.58	H	4.51	9.39	23.46	221.82	33.00	-9.54	1/1
		1882.50	19.54	H	4.53	9.17	24.18	261.82	33.00	-8.82	1/104
		1905.00	20.78	H	4.56	8.93	25.15	327.34	33.00	-7.85	1/104
15	π/2 BPSK	1857.50	19.14	H	4.50	9.41	24.05	254.10	33.00	-8.95	1/77
		1882.50	20.10	H	4.53	9.17	24.74	297.85	33.00	-8.26	1/77
		1907.50	21.09	H	4.56	8.89	25.42	348.34	33.00	-7.58	1/1
	16-QAM	1857.50	18.11	H	4.50	9.41	23.02	200.45	33.00	-9.98	1/77
		1882.50	19.41	H	4.53	9.17	24.05	254.10	33.00	-8.95	1/77
		1907.50	20.71	H	4.56	8.89	25.04	319.15	33.00	-7.96	1/77
10	π/2 BPSK	1855.00	19.15	H	4.50	9.43	24.08	255.86	33.00	-8.92	1/1
		1882.50	20.11	H	4.53	9.17	24.75	298.54	33.00	-8.25	1/1
		1910.00	21.16	H	4.57	8.85	25.45	350.75	33.00	-7.55	1/1
	16-QAM	1855.00	18.13	H	4.50	9.43	23.06	202.30	33.00	-9.94	1/1
		1882.50	19.20	H	4.53	9.17	23.84	242.10	33.00	-9.16	1/26
		1910.00	20.51	H	4.57	8.85	24.80	302.00	33.00	-8.20	1/1
5	π/2 BPSK	1852.50	19.20	H	4.50	9.46	24.16	260.62	33.00	-8.84	1/23
		1882.50	20.02	H	4.53	9.17	24.66	292.42	33.00	-8.34	1/1
		1912.50	21.14	H	4.57	8.82	25.38	345.14	33.00	-7.62	1/23
	16-QAM	1852.50	17.99	H	4.50	9.46	22.95	197.24	33.00	-10.05	1/1
		1882.50	19.29	H	4.53	9.17	23.93	247.17	33.00	-9.07	1/1
		1912.50	20.53	H	4.57	8.82	24.77	299.92	33.00	-8.23	1/1

NR Band n25 DFT-s 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	1870.00	16.90	V	4.52	9.29	21.68	147.23	33.00	-11.32	1/1
		1882.50	17.27	V	4.53	9.17	21.91	155.24	33.00	-11.09	1/108
		1895.00	16.52	V	4.55	9.05	21.03	126.77	33.00	-11.97	1/1
	16-QAM	1870.00	15.74	V	4.52	9.29	20.52	112.72	33.00	-12.48	1/108
		1882.50	15.73	V	4.53	9.17	20.37	108.89	33.00	-12.63	1/108
		1895.00	15.43	V	4.55	9.05	19.94	98.63	33.00	-13.06	1/1
35	QPSK	1867.50	16.87	V	4.51	9.32	21.67	146.89	33.00	-11.33	1/186
		1882.50	17.20	V	4.53	9.17	21.84	152.76	33.00	-11.16	1/93
		1897.50	16.64	V	4.55	9.03	21.12	129.42	33.00	-11.88	1/93
	16-QAM	1867.50	15.77	V	4.51	9.32	20.57	114.02	33.00	-12.43	1/186
		1882.50	15.77	V	4.53	9.17	20.41	109.90	33.00	-12.59	1/93
		1897.50	15.55	V	4.55	9.03	20.03	100.69	33.00	-12.97	1/93
30	QPSK	1865.00	17.03	V	4.51	9.34	21.86	153.46	33.00	-11.14	1/1
		1882.50	17.21	V	4.53	9.17	21.85	153.11	33.00	-11.15	1/80
		1900.00	16.61	V	4.55	9.01	21.07	127.94	33.00	-11.93	1/1
	16-QAM	1865.00	15.70	V	4.51	9.34	20.53	112.98	33.00	-12.47	1/158
		1882.50	15.78	V	4.53	9.17	20.42	110.15	33.00	-12.58	1/80
		1900.00	15.40	V	4.55	9.01	19.86	96.83	33.00	-13.14	1/80
25	QPSK	1862.50	16.59	V	4.51	9.36	21.45	139.64	33.00	-11.55	1/1
		1882.50	17.25	V	4.53	9.17	21.89	154.53	33.00	-11.11	1/1
		1902.50	16.69	V	4.56	8.97	21.11	129.12	33.00	-11.89	1/1
	16-QAM	1862.50	15.44	V	4.51	9.36	20.30	107.15	33.00	-12.70	1/1
		1882.50	15.74	V	4.53	9.17	20.38	109.14	33.00	-12.62	1/67
		1902.50	15.57	V	4.56	8.97	19.99	99.77	33.00	-13.01	1/1
20	QPSK	1860.00	16.45	V	4.51	9.39	21.33	135.63	33.00	-11.67	1/104
		1882.50	17.16	V	4.53	9.17	21.80	151.36	33.00	-11.20	1/1
		1905.00	16.74	V	4.56	8.93	21.11	129.12	33.00	-11.89	1/53
	16-QAM	1860.00	15.17	V	4.51	9.39	20.05	101.16	33.00	-12.95	1/104
		1882.50	15.69	V	4.53	9.17	20.33	107.89	33.00	-12.67	1/104
		1905.00	15.56	V	4.56	8.93	19.93	98.40	33.00	-13.07	1/53
15	QPSK	1857.50	16.49	V	4.50	9.41	21.40	138.04	33.00	-11.60	1/1
		1882.50	17.27	V	4.53	9.17	21.91	155.24	33.00	-11.09	1/1
		1907.50	16.73	V	4.56	8.89	21.06	127.64	33.00	-11.94	1/77
	16-QAM	1857.50	15.15	V	4.50	9.41	20.06	101.39	33.00	-12.94	1/1
		1882.50	15.66	V	4.53	9.17	20.30	107.15	33.00	-12.70	1/40
		1907.50	15.53	V	4.56	8.89	19.86	96.83	33.00	-13.14	1/77
10	QPSK	1855.00	16.43	V	4.50	9.43	21.36	136.77	33.00	-11.64	1/26
		1882.50	17.06	V	4.53	9.17	21.70	147.91	33.00	-11.30	1/1
		1910.00	16.62	V	4.57	8.85	20.91	123.31	33.00	-12.09	1/1
	16-QAM	1855.00	15.04	V	4.50	9.43	19.97	99.31	33.00	-13.03	1/26
		1882.50	15.58	V	4.53	9.17	20.22	105.20	33.00	-12.78	1/26
		1910.00	15.55	V	4.57	8.85	19.84	96.38	33.00	-13.16	1/1
5	QPSK	1852.50	16.29	V	4.50	9.46	21.25	133.35	33.00	-11.75	1/1
		1882.50	17.05	V	4.53	9.17	21.69	147.57	33.00	-11.31	1/23
		1912.50	16.74	V	4.57	8.82	20.99	125.60	33.00	-12.01	1/13
	16-QAM	1852.50	15.07	V	4.50	9.46	20.03	100.69	33.00	-12.97	1/1
		1882.50	15.62	V	4.53	9.17	20.26	106.17	33.00	-12.74	1/23
		1912.50	15.55	V	4.57	8.82	19.80	95.50	33.00	-13.20	1/13

9.2. RADIATED SPURIOUS EMISSION

RULE PART(S)

FCC: §2.1053, §24.238

LIMIT

24.238(a)

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

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 = 1 MHz for emissions above 1 GHz
- b) Set VBW $\geq 3 \times$ 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 $\geq 2 \times$ span/RBW;
- g) Trace Mode = average(WCDMA, LTE, 5G NR), Maxhold(GSM);

NOTE1

GSM : It was tested at GPRS as worst case (the highest output power and density).

UMTS: It was tested at REL 99 as worst case (the highest output power and density).

LTE: It was tested at 1RB QPSK as worst case (the highest output power and density).

5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ 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.

9.2.1. SPURIOUS RADIATION RESULT

GSM1900

	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung Project #: 4791615583 Date: 2025-01-13 Test Engineer: 28183 Configuration: EUT / X-Position Location: Chamber 2 Mode: GPRS 1900 MHz 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
GPRS ANT A	Low Ch, 1850.2MHz									
	3700.40	-8.5	V	3.0	43.1	1.0	-50.6	-13.0	-37.6	
	5550.60	-1.2	V	3.0	43.4	1.0	-43.6	-13.0	-30.6	
	7400.80	-3.4	V	3.0	43.0	1.0	-45.4	-13.0	-32.4	
	3700.40	-8.1	H	3.0	43.1	1.0	-50.2	-13.0	-37.2	
	5550.60	1.5	H	3.0	43.4	1.0	-40.9	-13.0	-27.9	
	7400.80	-3.6	H	3.0	43.0	1.0	-45.6	-13.0	-32.6	
	Mid Ch, 1880MHz									
	3760.00	-8.1	V	3.0	43.1	1.0	-50.2	-13.0	-37.2	
	5640.00	-3.1	V	3.0	43.4	1.0	-45.5	-13.0	-32.5	
	7520.00	-2.5	V	3.0	42.9	1.0	-44.5	-13.0	-31.5	
	3760.00	-8.0	H	3.0	43.1	1.0	-50.1	-13.0	-37.1	
	5640.00	-0.7	H	3.0	43.4	1.0	-43.2	-13.0	-30.2	
	7520.00	-2.7	H	3.0	42.9	1.0	-44.6	-13.0	-31.6	
	High Ch, 1909.8MHz									
	3819.60	-7.2	V	3.0	43.1	1.0	-49.3	-13.0	-36.3	
	5729.40	-1.5	V	3.0	43.4	1.0	-43.9	-13.0	-30.9	
	7639.20	-3.0	V	3.0	42.9	1.0	-44.9	-13.0	-31.9	
	3819.60	-6.6	H	3.0	43.1	1.0	-48.7	-13.0	-35.7	
	5729.40	2.6	H	3.0	43.4	1.0	-39.9	-13.0	-26.9	
	7639.20	-3.3	H	3.0	42.9	1.0	-45.2	-13.0	-32.2	

WCDMA Band 2

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		Samsung							
Project #:		4791615583							
Date:		2025-01-15							
Test Engineer:		28183							
Configuration:		EUT / AC Adapter, X-Position							
Location:		Chamber 2							
Mode:		Rel99 Band 2 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, 1852.4MHz									
3704.80	-9.5	V	3.0	43.1	1.0	-51.5	-13.0	-38.5	
5557.20	-6.5	V	3.0	43.4	1.0	-48.9	-13.0	-35.9	
7409.60	-4.7	V	3.0	43.0	1.0	-46.7	-13.0	-33.7	
3704.80	-9.2	H	3.0	43.1	1.0	-51.2	-13.0	-38.2	
5557.20	-6.8	H	3.0	43.4	1.0	-49.2	-13.0	-36.2	
7409.60	-4.7	H	3.0	43.0	1.0	-46.8	-13.0	-33.8	
Mid Ch, 1880MHz									
3760.00	-9.5	V	3.0	43.1	1.0	-51.6	-13.0	-38.6	
5640.00	-7.1	V	3.0	43.4	1.0	-49.5	-13.0	-36.5	
7520.00	-4.3	V	3.0	42.9	1.0	-46.3	-13.0	-33.3	
3760.00	-9.1	H	3.0	43.1	1.0	-51.2	-13.0	-38.2	
5640.00	-7.3	H	3.0	43.4	1.0	-49.7	-13.0	-36.7	
7520.00	-4.4	H	3.0	42.9	1.0	-46.4	-13.0	-33.4	
High Ch, 1907.6MHz									
3815.20	-9.0	V	3.0	43.1	1.0	-51.2	-13.0	-38.2	
5722.80	-6.4	V	3.0	43.4	1.0	-48.9	-13.0	-35.9	
7630.40	-4.2	V	3.0	42.9	1.0	-46.1	-13.0	-33.1	
3815.20	-8.8	H	3.0	43.1	1.0	-50.9	-13.0	-37.9	
5722.80	-6.5	H	3.0	43.4	1.0	-49.0	-13.0	-36.0	
7630.40	-4.3	H	3.0	42.9	1.0	-46.2	-13.0	-33.2	

REL99
ANT A

LTE Band 25

5 MHz QPSK ANT A	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4791615583									
	Date: 2025-01-22									
	Test Engineer: 28775									
	Configuration: EUT / AC Adapter, X-Position									
	Location: Chamber 2									
	Mode: LTE_QPSK Band 25 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, 1852.5MHz									
	3705.00	-10.8	V	3.0	43.1	1.0	-52.9	-13.0	-39.9	
	5557.50	-8.0	V	3.0	43.4	1.0	-50.4	-13.0	-37.4	
	7410.00	-5.5	V	3.0	43.0	1.0	-47.5	-13.0	-34.5	
	3705.00	-10.5	H	3.0	43.1	1.0	-52.5	-13.0	-39.5	
	5557.50	-7.9	H	3.0	43.4	1.0	-50.3	-13.0	-37.3	
	7410.00	-5.5	H	3.0	43.0	1.0	-47.5	-13.0	-34.5	
	Mid Ch, 1882.5MHz									
	3765.00	-10.5	V	3.0	43.1	1.0	-52.6	-13.0	-39.6	
	5647.50	-7.1	V	3.0	43.4	1.0	-49.5	-13.0	-36.5	
	7530.00	-5.6	V	3.0	42.9	1.0	-47.6	-13.0	-34.6	
	3765.00	-10.3	H	3.0	43.1	1.0	-52.4	-13.0	-39.4	
5647.50	-7.6	H	3.0	43.4	1.0	-50.0	-13.0	-37.0		
7530.00	-5.8	H	3.0	42.9	1.0	-47.7	-13.0	-34.7		
High Ch, 1912.5MHz										
3825.00	-10.4	V	3.0	43.1	1.0	-52.5	-13.0	-39.5		
5737.50	-7.6	V	3.0	43.5	1.0	-50.1	-13.0	-37.1		
7650.00	-5.5	V	3.0	42.9	1.0	-47.3	-13.0	-34.3		
3825.00	-10.2	H	3.0	43.1	1.0	-52.3	-13.0	-39.3		
5737.50	-7.8	H	3.0	43.5	1.0	-50.2	-13.0	-37.2		
7650.00	-5.7	H	3.0	42.9	1.0	-47.5	-13.0	-34.5		
1.4 MHz QPSK ANT F	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4791615583									
	Date: 2025-02-05									
	Test Engineer: 28775									
	Configuration: EUT / AC Adapter, Y-Position									
	Location: Chamber 1									
	Mode: LTE_QPSK Band 25 Harmonics, 1.4MHz 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, 1850.7MHz									
	3701.40	-8.7	V	3.0	44.2	1.0	-51.9	-13.0	-38.9	
	5552.10	-6.7	V	3.0	44.6	1.0	-50.4	-13.0	-37.4	
	7402.80	-3.8	V	3.0	44.8	1.0	-47.6	-13.0	-34.6	
	3701.40	-8.7	H	3.0	44.2	1.0	-51.9	-13.0	-38.9	
	5552.10	-6.6	H	3.0	44.6	1.0	-50.3	-13.0	-37.3	
	7402.80	-3.7	H	3.0	44.8	1.0	-47.5	-13.0	-34.5	
	Mid Ch, 1882.5MHz									
	3765.00	-8.7	V	3.0	44.3	1.0	-52.0	-13.0	-39.0	
	5647.50	-6.4	V	3.0	44.7	1.0	-50.0	-13.0	-37.0	
	7530.00	-3.8	V	3.0	44.7	1.0	-47.5	-13.0	-34.5	
	3765.00	-8.7	H	3.0	44.3	1.0	-52.0	-13.0	-39.0	
5647.50	-6.4	H	3.0	44.7	1.0	-50.1	-13.0	-37.1		
7530.00	-3.8	H	3.0	44.7	1.0	-47.5	-13.0	-34.5		
High Ch, 1914.3MHz										
3828.60	-8.6	V	3.0	44.4	1.0	-52.0	-13.0	-39.0		
5742.90	-6.6	V	3.0	44.7	1.0	-50.2	-13.0	-37.2		
7657.20	-3.3	V	3.0	44.6	1.0	-46.9	-13.0	-33.9		
3828.60	-8.4	H	3.0	44.4	1.0	-51.8	-13.0	-38.8		
5742.90	-6.6	H	3.0	44.7	1.0	-50.2	-13.0	-37.2		
7657.20	-3.4	H	3.0	44.6	1.0	-47.0	-13.0	-34.0		

NR Band n25 DFT-s OFDM

25 MHz BPSK ANT A	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4791615583									
	Date: 2025-02-09									
	Test Engineer: 26087									
	Configuration: EUT / Z-Position									
	Location: Chamber 1									
	Mode: 5G NR_BPSK NR n25 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, 1862.5MHz									
	3725.00	-8.9	V	3.0	44.3	1.0	-52.2	-13.0	-39.2	
	5587.50	-5.7	V	3.0	44.6	1.0	-49.4	-13.0	-36.4	
	7450.00	-3.4	V	3.0	44.8	1.0	-47.2	-13.0	-34.2	
	3725.00	-8.7	H	3.0	44.3	1.0	-52.0	-13.0	-39.0	
	5587.50	-5.2	H	3.0	44.6	1.0	-48.8	-13.0	-35.8	
	7450.00	-3.3	H	3.0	44.8	1.0	-47.1	-13.0	-34.1	
	Mid Ch, 1882.5MHz									
	3765.00	-8.7	V	3.0	44.3	1.0	-52.0	-13.0	-39.0	
	5647.50	-5.8	V	3.0	44.7	1.0	-49.4	-13.0	-36.4	
	7530.00	-3.5	V	3.0	44.7	1.0	-47.2	-13.0	-34.2	
3765.00	-8.6	H	3.0	44.3	1.0	-51.9	-13.0	-38.9		
5647.50	-5.2	H	3.0	44.7	1.0	-48.9	-13.0	-35.9		
7530.00	-3.4	H	3.0	44.7	1.0	-47.1	-13.0	-34.1		
High Ch, 1902.5MHz										
3805.00	-8.5	V	3.0	44.4	1.0	-51.8	-13.0	-38.8		
5707.50	-5.3	V	3.0	44.7	1.0	-49.0	-13.0	-36.0		
7610.00	-3.3	V	3.0	44.7	1.0	-46.9	-13.0	-33.9		
3805.00	-8.3	H	3.0	44.4	1.0	-51.7	-13.0	-38.7		
5707.50	-4.5	H	3.0	44.7	1.0	-48.2	-13.0	-35.2		
7610.00	-3.2	H	3.0	44.7	1.0	-46.9	-13.0	-33.9		
40 MHz QPSK ANT F	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4791615583									
	Date: 2025-02-10									
	Test Engineer: 28775									
	Configuration: EUT / AC Adapter, Z-Position									
	Location: Chamber 1									
	Mode: 5G NR_QPSK NR n25 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, 1870MHz									
	3740.00	-8.8	V	3.0	44.3	1.0	-52.1	-13.0	-39.1	
	5610.00	-6.8	V	3.0	44.6	1.0	-50.5	-13.0	-37.5	
	7480.00	-3.4	V	3.0	44.8	1.0	-47.2	-13.0	-34.2	
	3740.00	-8.9	H	3.0	44.3	1.0	-52.2	-13.0	-39.2	
	5610.00	-6.9	H	3.0	44.6	1.0	-50.5	-13.0	-37.5	
	7480.00	-3.7	H	3.0	44.8	1.0	-47.5	-13.0	-34.5	
	Mid Ch, 1882.5MHz									
	3765.00	-8.8	V	3.0	44.3	1.0	-52.1	-13.0	-39.1	
	5647.50	-6.8	V	3.0	44.7	1.0	-50.5	-13.0	-37.5	
	7530.00	-3.5	V	3.0	44.7	1.0	-47.2	-13.0	-34.2	
3765.00	-8.7	H	3.0	44.3	1.0	-52.0	-13.0	-39.0		
5647.50	-6.9	H	3.0	44.7	1.0	-50.5	-13.0	-37.5		
7530.00	-3.7	H	3.0	44.7	1.0	-47.5	-13.0	-34.5		
High Ch, 1895MHz										
3790.00	-8.7	V	3.0	44.4	1.0	-52.0	-13.0	-39.0		
5685.00	-6.7	V	3.0	44.7	1.0	-50.4	-13.0	-37.4		
7580.00	-3.5	V	3.0	44.7	1.0	-47.2	-13.0	-34.2		
3790.00	-8.6	H	3.0	44.4	1.0	-52.0	-13.0	-39.0		
5685.00	-6.7	H	3.0	44.7	1.0	-50.3	-13.0	-37.3		
7580.00	-3.8	H	3.0	44.7	1.0	-47.5	-13.0	-34.5		

END OF REPORT