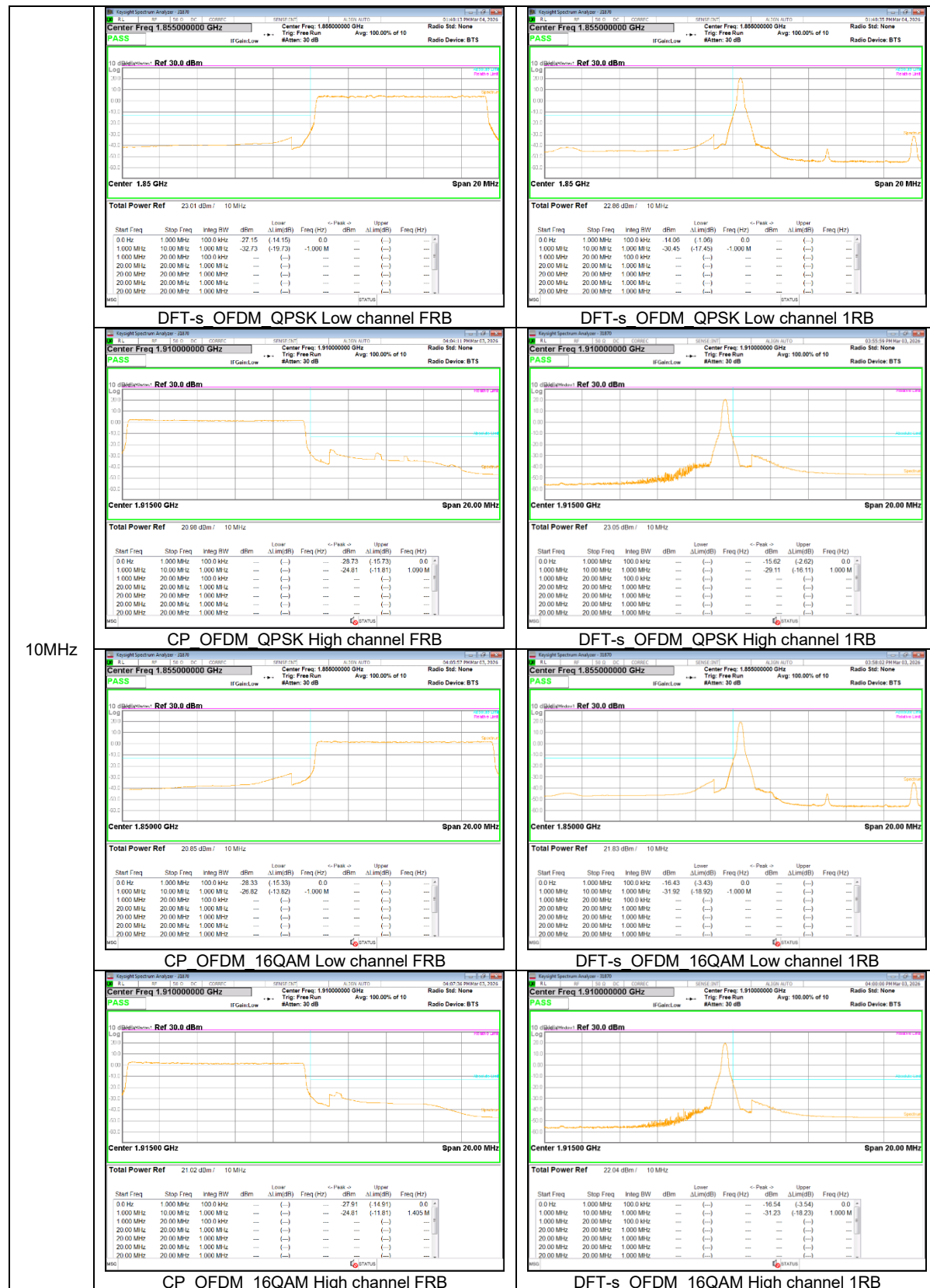
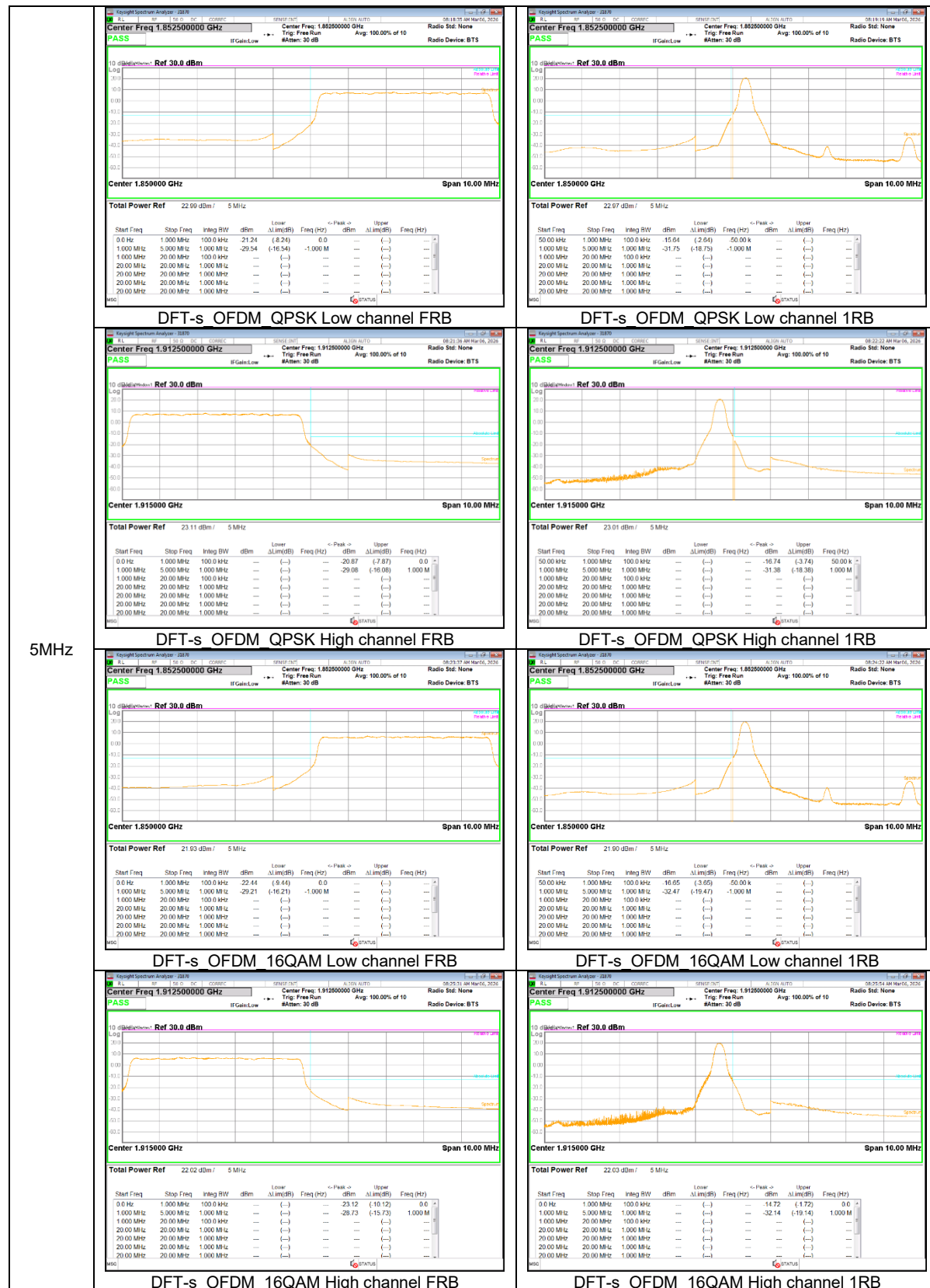






8.5. CONDUCTED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §2.1051, §24.238

LIMITS

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

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 = 1 MHz for emissions above 1 GHz
(Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- 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 = Max (40001);
- g) Trace Mode = average;
- h) Add duty cycle correction factor 9 dB(GSM only)

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.

8.5.1. OUT OF BAND EMISSIONS RESULT

GSM 1900 (ANT B)

GPRS



WCDMA Band 2 (ANT F)

REL99



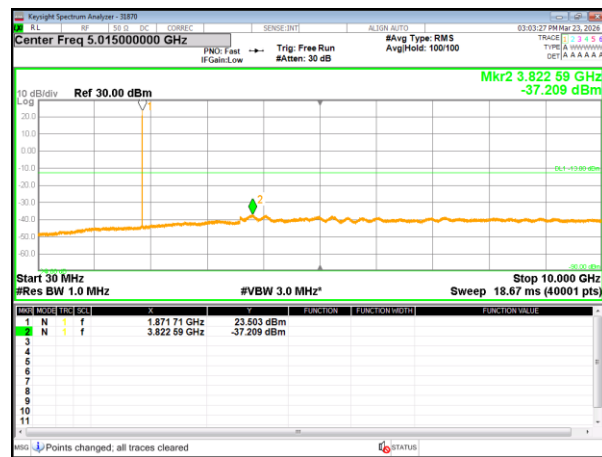
LTE Band 25 (ANT F)

5 MHz QPSK

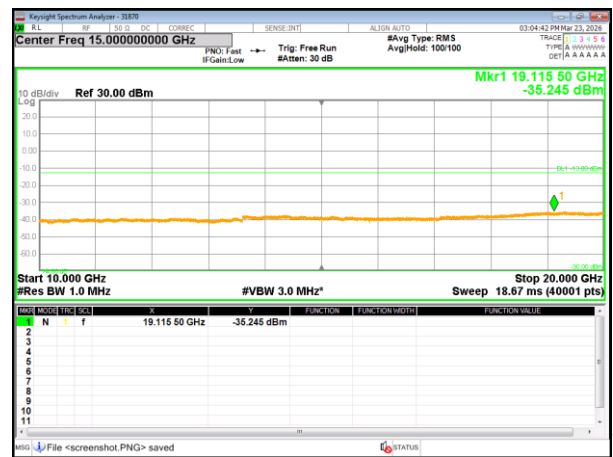


NR Band n25 DFT-s OFDM (ANT F)

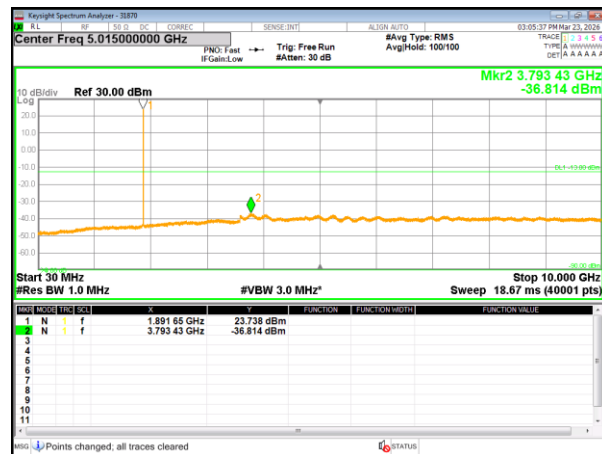
20 MHz QPSK



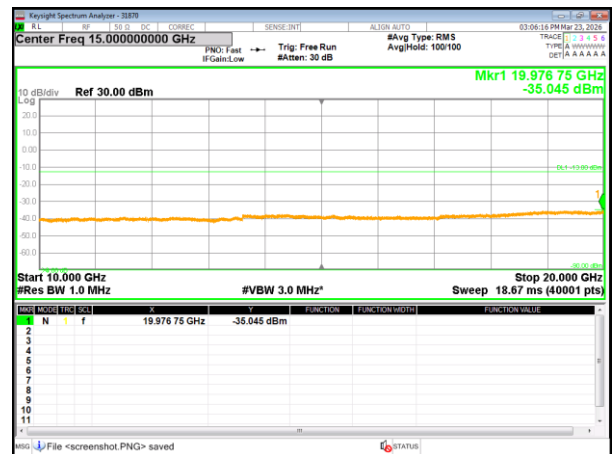
Low channel



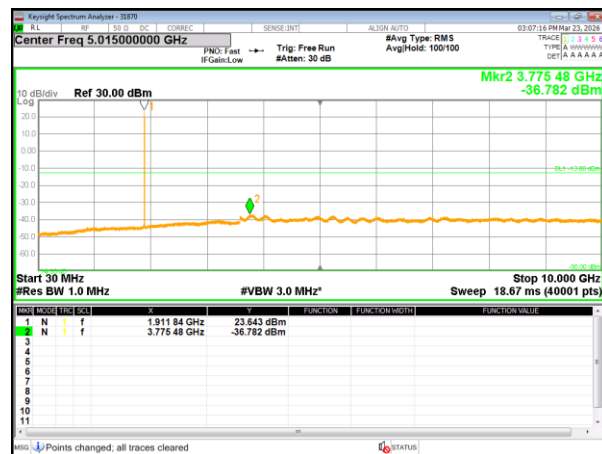
Low channel



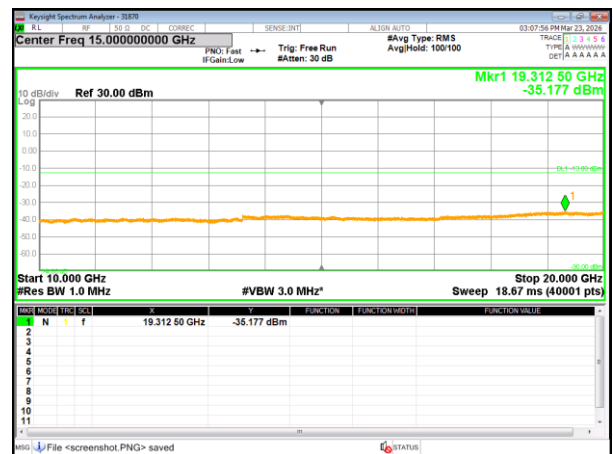
Mid channel



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: GPRS / Highest Frequency: EGPRS)

Test Date	2026-03-24
Test Engineer	31870

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	1850.0760	1909.9248		
Extreme (50C)		1850.0760	1909.9249	22.9	0.012
Extreme (40C)		1850.0760	1909.9249	25.8	0.014
Extreme (30C)		1850.0760	1909.9249	25.6	0.014
Extreme (10C)		1850.0760	1909.9249	29.1	0.015
Extreme (0C)		1850.0760	1909.9249	23.6	0.013
Extreme (-10C)		1850.0760	1909.9249	29.3	0.016
Extreme (-20C)		1850.0760	1909.9249	23.7	0.013
Extreme (-30C)		1850.0760	1909.9249	26.8	0.014
20C	15%	1850.0760	1909.9249	31.3	0.017
	-15%	1850.0760	1909.9249	24.2	0.013
	End Point	1850.0760	1909.9249	22.1	0.012

WCDMA Band 2 (Lowest Frequency: Rel99/ Highest Frequency: Rel99)

Test Date	2026-03-24
Test Engineer	31870

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	1850.3148	1909.6969		
Extreme (50C)		1850.3148	1909.6969	19.5	0.010
Extreme (40C)		1850.3148	1909.6969	18.5	0.010
Extreme (30C)		1850.3148	1909.6969	14.3	0.008
Extreme (10C)		1850.3148	1909.6969	10.2	0.005
Extreme (0C)		1850.3148	1909.6969	11.1	0.006
Extreme (-10C)		1850.3148	1909.6969	8.5	0.005
Extreme (-20C)		1850.3148	1909.6969	6.3	0.003
Extreme (-30C)		1850.3148	1909.6969	4.5	0.002
20C	15%	1850.3148	1909.6969	20.1	0.011
	-15%	1850.3148	1909.6969	11.3	0.006
	End Point	1850.3148	1909.6969	10.6	0.006

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

Test Date	2026-03-24
Test Engineer	31870

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	1850.1575	1914.8456		
Extreme (50C)		1850.1575	1914.8456	13.3	0.007
Extreme (40C)		1850.1575	1914.8456	11.9	0.006
Extreme (30C)		1850.1575	1914.8456	12.6	0.007
Extreme (10C)		1850.1575	1914.8456	12.0	0.006
Extreme (0C)		1850.1575	1914.8456	9.6	0.005
Extreme (-10C)		1850.1575	1914.8456	11.9	0.006
Extreme (-20C)		1850.1575	1914.8456	9.5	0.005
Extreme (-30C)		1850.1575	1914.8456	8.2	0.004
20C	15%	1850.1575	1914.8456	14.3	0.008
	-15%	1850.1575	1914.8456	9.8	0.005
	End Point	1850.1575	1914.8456	8.1	0.004

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

Test Date	2026-03-31
Test Engineer	31870

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	1850.2536	1914.7423		
Extreme (50C)		1850.2536	1914.7423	21.2	0.011
Extreme (40C)		1850.2536	1914.7423	18.2	0.010
Extreme (30C)		1850.2536	1914.7423	16.8	0.009
Extreme (10C)		1850.2536	1914.7423	17.4	0.009
Extreme (0C)		1850.2536	1914.7423	15.8	0.008
Extreme (-10C)		1850.2536	1914.7423	17.9	0.010
Extreme (-20C)		1850.2536	1914.7423	14.1	0.008
Extreme (-30C)		1850.2536	1914.7423	12.7	0.007
20C	15%	1850.2536	1914.7423	19.4	0.010
	-15%	1850.2536	1914.7423	15.0	0.008
	End Point	1850.2536	1914.7423	13.6	0.007

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 $\geq 1\%$ to 5% of the OBW;
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span $\geq 2 \times$ to $3 \times$ the OBW.;
- d) Sweep time = auto couple or Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.;
- e) Detector = rms;
- f) Ensure that the number of measurement points $\geq 2 \times \text{span/RBW}$;
- g) Trace mode = average;
- h) If the EUT can be configured to transmit continuously, then set the trigger to free run.
- i) If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full-power transmissions).
- j) Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over multiple symbols, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.
- k) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

NOTE

LTE, 5G NR : The OBW value corresponding to the total channel bandwidth is the OBW of FullRB. Measurements were made with a 1RB configuration (worst-case) across the entire channel bandwidth, and FRB configurations were reported for the widest BW.

TEST RESULTS

See the following pages.

9.1.1. EIRP RESULT

GSM 1900 (ANT B)

Band	Mode	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Delta (dB)
GSM 1900	GPRS	1850.20	25.83	H	4.46	9.48	30.84	1.213	33.00	-2.16
		1880.00	26.04	H	4.50	9.20	30.74	1.186	33.00	-2.26
		1909.80	27.36	H	4.53	8.86	31.69	1.476	33.00	-1.31
	EGPRS	1850.20	25.63	H	4.46	9.48	30.65	1.161	33.00	-2.35
		1880.00	25.90	H	4.50	9.20	30.60	1.148	33.00	-2.40
		1909.80	27.16	H	4.53	8.86	31.49	1.409	33.00	-1.51

WCDMA Band 2 (ANT F)

Band	Mode	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Delta (dB)
Band 2	REL99	1852.40	16.69	H	4.46	9.46	21.69	0.148	33.00	-11.31
		1880.00	17.31	H	4.50	9.20	22.00	0.158	33.00	-11.00
		1907.60	18.09	H	4.53	8.89	22.45	0.176	33.00	-10.55
	HSDPA	1852.40	15.61	H	4.46	9.46	20.60	0.115	33.00	-12.40
		1880.00	16.22	H	4.50	9.20	20.92	0.124	33.00	-12.08
		1907.60	16.68	H	4.53	8.89	21.05	0.127	33.00	-11.95

LTE Band 25 (ANT B)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Delta (dB)	RB
20	QPSK	1860.00	19.50	H	4.48	9.39	24.41	0.276	33.00	-8.59	1 / 99
		1882.50	20.10	H	4.50	9.17	24.77	0.300	33.00	-8.23	1 / 99
		1905.00	20.45	H	4.52	8.93	24.86	0.306	33.00	-8.14	1 / 49
	16-QAM	1860.00	18.76	H	4.48	9.39	23.67	0.233	33.00	-9.33	1 / 99
		1882.50	19.57	H	4.50	9.17	24.24	0.265	33.00	-8.76	1 / 49
		1905.00	20.09	H	4.52	8.93	24.50	0.282	33.00	-8.50	1 / 0
15	QPSK	1857.50	19.24	H	4.48	9.41	24.17	0.261	33.00	-8.83	1 / 0
		1882.50	20.18	H	4.50	9.17	24.85	0.305	33.00	-8.15	1 / 37
		1907.50	20.33	H	4.53	8.89	24.69	0.294	33.00	-8.31	1 / 74
	16-QAM	1857.50	18.38	H	4.48	9.41	23.31	0.214	33.00	-9.69	1 / 0
		1882.50	19.34	H	4.50	9.17	24.01	0.252	33.00	-8.99	1 / 0
		1907.50	20.19	H	4.53	8.89	24.55	0.285	33.00	-8.45	1 / 37
10	QPSK	1855.00	19.33	H	4.47	9.43	24.29	0.269	33.00	-8.71	1 / 0
		1882.50	19.87	H	4.50	9.17	24.54	0.284	33.00	-8.46	1 / 25
		1910.00	20.43	H	4.53	8.85	24.75	0.299	33.00	-8.25	1 / 49
	16-QAM	1855.00	18.44	H	4.47	9.43	23.40	0.219	33.00	-9.60	1 / 0
		1882.50	19.20	H	4.50	9.17	23.87	0.244	33.00	-9.13	1 / 0
		1910.00	20.06	H	4.53	8.85	24.38	0.274	33.00	-8.62	1 / 25
5	QPSK	1852.50	19.18	H	4.46	9.46	24.18	0.262	33.00	-8.82	1 / 12
		1882.50	20.11	H	4.50	9.17	24.78	0.301	33.00	-8.22	1 / 24
		1912.50	20.70	H	4.53	8.82	24.99	0.316	33.00	-8.01	1 / 24
	16-QAM	1852.50	18.60	H	4.46	9.46	23.60	0.229	33.00	-9.40	1 / 12
		1882.50	19.63	H	4.50	9.17	24.30	0.269	33.00	-8.70	1 / 12
		1912.50	20.05	H	4.53	8.82	24.34	0.272	33.00	-8.66	1 / 0
3	QPSK	1851.50	19.13	H	4.46	9.47	24.14	0.259	33.00	-8.86	1 / 8
		1882.50	20.03	H	4.50	9.17	24.70	0.295	33.00	-8.30	1 / 8
		1913.50	20.55	H	4.54	8.80	24.81	0.303	33.00	-8.19	1 / 14
	16-QAM	1851.50	18.31	H	4.46	9.47	23.32	0.215	33.00	-9.68	1 / 8
		1882.50	19.59	H	4.50	9.17	24.26	0.267	33.00	-8.74	1 / 8
		1913.50	20.26	H	4.54	8.80	24.52	0.283	33.00	-8.48	1 / 14
1.4	QPSK	1850.70	19.12	H	4.46	9.48	24.14	0.259	33.00	-8.86	1 / 0
		1882.50	20.03	H	4.50	9.17	24.70	0.295	33.00	-8.30	1 / 3
		1914.30	20.48	H	4.54	8.79	24.73	0.297	33.00	-8.27	1 / 3
	16-QAM	1850.70	18.34	H	4.46	9.48	23.36	0.217	33.00	-9.64	1 / 0
		1882.50	19.38	H	4.50	9.17	24.05	0.254	33.00	-8.95	1 / 3
		1914.30	20.43	H	4.54	8.79	24.68	0.294	33.00	-8.32	1 / 0
20	QPSK	1860.00	18.38	H	4.48	9.39	23.29	0.213	33.00	-9.71	100/0
		1882.50	18.94	H	4.50	9.17	23.61	0.230	33.00	-9.39	100/0
		1905.00	19.33	H	4.52	8.93	23.74	0.237	33.00	-9.26	100/0
	16-QAM	1860.00	17.24	H	4.48	9.39	22.15	0.164	33.00	-10.85	100/0
		1882.50	18.50	H	4.50	9.17	23.17	0.207	33.00	-9.83	100/0
		1905.00	18.84	H	4.52	8.93	23.25	0.211	33.00	-9.75	100/0

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 (W)	Limit (dBm)	Delta (dB)	RB
20	QPSK	1860.00	18.00	H	4.48	9.39	22.91	0.195	33.00	-10.09	1 / 99
		1882.50	18.57	H	4.50	9.17	23.24	0.211	33.00	-9.76	1 / 99
		1905.00	19.40	H	4.52	8.93	23.81	0.240	33.00	-9.19	1 / 49
	16-QAM	1860.00	17.49	H	4.48	9.39	22.40	0.174	33.00	-10.60	1 / 99
		1882.50	17.70	H	4.50	9.17	22.37	0.173	33.00	-10.63	1 / 49
		1905.00	18.40	H	4.52	8.93	22.81	0.191	33.00	-10.19	1 / 99
15	QPSK	1857.50	17.74	H	4.48	9.41	22.67	0.185	33.00	-10.33	1 / 0
		1882.50	18.65	H	4.50	9.17	23.32	0.215	33.00	-9.68	1 / 37
		1907.50	19.28	H	4.53	8.89	23.64	0.231	33.00	-9.36	1 / 74
	16-QAM	1857.50	17.34	H	4.48	9.41	22.27	0.169	33.00	-10.73	1 / 0
		1882.50	17.69	H	4.50	9.17	22.36	0.172	33.00	-10.64	1 / 0
		1907.50	18.13	H	4.53	8.89	22.49	0.177	33.00	-10.51	1 / 37
10	QPSK	1855.00	17.83	H	4.47	9.43	22.79	0.190	33.00	-10.21	1 / 0
		1882.50	18.34	H	4.50	9.17	23.01	0.200	33.00	-9.99	1 / 25
		1910.00	19.38	H	4.53	8.85	23.70	0.234	33.00	-9.30	1 / 49
	16-QAM	1855.00	17.40	H	4.47	9.43	22.36	0.172	33.00	-10.64	1 / 0
		1882.50	17.55	H	4.50	9.17	22.22	0.167	33.00	-10.78	1 / 0
		1910.00	18.40	H	4.53	8.85	22.72	0.187	33.00	-10.28	1 / 25
5	QPSK	1852.50	17.68	H	4.46	9.46	22.68	0.185	33.00	-10.32	1 / 12
		1882.50	18.58	H	4.50	9.17	23.25	0.211	33.00	-9.75	1 / 24
		1912.50	19.65	H	4.53	8.82	23.94	0.248	33.00	-9.06	1 / 24
	16-QAM	1852.50	17.42	H	4.46	9.46	22.42	0.175	33.00	-10.58	1 / 0
		1882.50	17.84	H	4.50	9.17	22.51	0.178	33.00	-10.49	1 / 0
		1912.50	18.39	H	4.53	8.82	22.68	0.185	33.00	-10.32	1 / 0
3	QPSK	1851.50	17.63	H	4.46	9.47	22.64	0.184	33.00	-10.36	1 / 8
		1882.50	18.50	H	4.50	9.17	23.17	0.207	33.00	-9.83	1 / 8
		1913.50	19.50	H	4.54	8.80	23.76	0.238	33.00	-9.24	1 / 14
	16-QAM	1851.50	17.27	H	4.46	9.47	22.28	0.169	33.00	-10.72	1 / 8
		1882.50	17.80	H	4.50	9.17	22.47	0.177	33.00	-10.53	1 / 0
		1913.50	18.52	H	4.54	8.80	22.78	0.190	33.00	-10.22	1 / 8
1.4	QPSK	1850.70	17.62	H	4.46	9.48	22.64	0.184	33.00	-10.36	1 / 0
		1882.50	18.50	H	4.50	9.17	23.17	0.207	33.00	-9.83	1 / 3
		1914.30	19.43	H	4.54	8.79	23.68	0.233	33.00	-9.32	1 / 3
	16-QAM	1850.70	17.30	H	4.46	9.48	22.32	0.171	33.00	-10.68	1 / 0
		1882.50	17.73	H	4.50	9.17	22.40	0.174	33.00	-10.60	1 / 3
		1914.30	18.57	H	4.54	8.79	22.82	0.191	33.00	-10.18	1 / 3
20	QPSK	1860.00	16.88	H	4.48	9.39	21.79	0.151	33.00	-11.21	100/0
		1882.50	17.41	H	4.50	9.17	22.08	0.161	33.00	-10.92	100/0
		1905.00	18.28	H	4.52	8.93	22.69	0.186	33.00	-10.31	100/0
	16-QAM	1860.00	16.20	H	4.48	9.39	21.11	0.129	33.00	-11.89	100/0
		1882.50	16.85	H	4.50	9.17	21.52	0.142	33.00	-11.48	100/0
		1905.00	17.18	H	4.52	8.93	21.59	0.144	33.00	-11.41	100/0

NR Band n25 DFT-s OFDM (ANT B)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (dBm)	Delta (dB)	RB
40	QPSK	1870.00	19.60	H	4.49	9.29	24.40	0.275	33.00	-8.60	1 / 1
		1882.50	19.97	H	4.50	9.17	24.64	0.291	33.00	-8.36	1 / 1
		1895.00	20.81	H	4.52	9.05	25.35	0.343	33.00	-7.65	1 / 1
	16-QAM	1870.00	18.45	H	4.49	9.29	23.25	0.211	33.00	-9.75	1 / 1
		1882.50	18.66	H	4.50	9.17	23.33	0.215	33.00	-9.67	1 / 1
		1895.00	19.48	H	4.52	9.05	24.02	0.252	33.00	-8.98	1 / 1
35	QPSK	1867.50	19.54	H	4.49	9.32	24.37	0.274	33.00	-8.63	1 / 1
		1882.50	19.89	H	4.50	9.17	24.56	0.286	33.00	-8.44	1 / 1
		1897.50	20.32	H	4.52	9.03	24.83	0.304	33.00	-8.17	1 / 93
	16-QAM	1867.50	18.46	H	4.49	9.32	23.29	0.213	33.00	-9.71	1 / 1
		1882.50	18.57	H	4.50	9.17	23.24	0.211	33.00	-9.76	1 / 1
		1897.50	18.93	H	4.52	9.03	23.44	0.221	33.00	-9.56	1 / 93
30	QPSK	1865.00	19.55	H	4.48	9.34	24.41	0.276	33.00	-8.59	1 / 1
		1882.50	19.90	H	4.50	9.17	24.57	0.286	33.00	-8.43	1 / 1
		1900.00	20.34	H	4.52	9.01	24.83	0.304	33.00	-8.17	1 / 1
	16-QAM	1865.00	18.52	H	4.48	9.34	23.38	0.218	33.00	-9.62	1 / 1
		1882.50	18.53	H	4.50	9.17	23.20	0.209	33.00	-9.80	1 / 1
		1900.00	18.95	H	4.52	9.01	23.44	0.221	33.00	-9.56	1 / 1
25	QPSK	1862.50	19.51	H	4.48	9.36	24.39	0.275	33.00	-8.61	1 / 1
		1882.50	19.93	H	4.50	9.17	24.60	0.288	33.00	-8.40	1 / 1
		1902.50	20.38	H	4.52	8.97	24.83	0.304	33.00	-8.17	1 / 1
	16-QAM	1862.50	18.51	H	4.48	9.36	23.39	0.218	33.00	-9.61	1 / 1
		1882.50	18.41	H	4.50	9.17	23.08	0.203	33.00	-9.92	1 / 1
		1902.50	19.17	H	4.52	8.97	23.62	0.230	33.00	-9.38	1 / 1
20	QPSK	1860.00	19.48	H	4.48	9.39	24.39	0.275	33.00	-8.61	1 / 1
		1882.50	19.84	H	4.50	9.17	24.51	0.282	33.00	-8.49	1 / 1
		1905.00	20.35	H	4.52	8.93	24.76	0.299	33.00	-8.24	1 / 104
	16-QAM	1860.00	18.38	H	4.48	9.39	23.29	0.213	33.00	-9.71	1 / 52
		1882.50	18.40	H	4.50	9.17	23.07	0.203	33.00	-9.93	1 / 1
		1905.00	18.99	H	4.52	8.93	23.40	0.219	33.00	-9.60	1 / 104
15	QPSK	1857.50	19.55	H	4.48	9.41	24.48	0.281	33.00	-8.52	1 / 1
		1882.50	19.94	H	4.50	9.17	24.61	0.289	33.00	-8.39	1 / 1
		1907.50	20.47	H	4.53	8.89	24.83	0.304	33.00	-8.17	1 / 1
	16-QAM	1857.50	18.47	H	4.48	9.41	23.40	0.219	33.00	-9.60	1 / 1
		1882.50	18.35	H	4.50	9.17	23.02	0.200	33.00	-9.98	1 / 77
		1907.50	19.08	H	4.53	8.89	23.44	0.221	33.00	-9.56	1 / 77
10	QPSK	1855.00	19.50	H	4.47	9.43	24.46	0.279	33.00	-8.54	1 / 25
		1882.50	19.80	H	4.50	9.17	24.47	0.280	33.00	-8.53	1 / 1
		1910.00	20.50	H	4.53	8.85	24.82	0.303	33.00	-8.18	1 / 25
	16-QAM	1855.00	18.39	H	4.47	9.43	23.35	0.216	33.00	-9.65	1 / 25
		1882.50	18.35	H	4.50	9.17	23.02	0.200	33.00	-9.98	1 / 50
		1910.00	19.04	H	4.53	8.85	23.36	0.217	33.00	-9.64	1 / 25
5	QPSK	1852.50	19.56	H	4.46	9.46	24.56	0.286	33.00	-8.44	1 / 1
		1882.50	19.92	H	4.50	9.17	24.59	0.288	33.00	-8.41	1 / 1
		1912.50	20.38	H	4.53	8.82	24.67	0.293	33.00	-8.33	1 / 1
	16-QAM	1852.50	18.39	H	4.46	9.46	23.39	0.218	33.00	-9.61	1 / 1
		1882.50	18.46	H	4.50	9.17	23.13	0.206	33.00	-9.87	1 / 1
		1912.50	19.07	H	4.53	8.82	23.36	0.217	33.00	-9.64	1 / 1
40	QPSK	1870.00	18.37	H	4.49	9.29	23.17	0.207	33.00	-9.83	216/0
		1882.50	18.83	H	4.50	9.17	23.50	0.224	33.00	-9.50	216/0
		1895.00	19.59	H	4.52	9.05	24.13	0.259	33.00	-8.87	216/0
	16-QAM	1870.00	17.00	H	4.49	9.29	21.80	0.151	33.00	-11.20	216/0
		1882.50	17.16	H	4.50	9.17	21.83	0.152	33.00	-11.17	216/0
		1895.00	17.69	H	4.52	9.05	22.23	0.167	33.00	-10.77	216/0

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 (W)	Limit (dBm)	Delta (dB)	RB
40	QPSK	1870.00	18.02	H	4.49	9.29	22.82	0.191	33.00	-10.18	1 / 214
		1882.50	18.84	H	4.50	9.17	23.51	0.224	33.00	-9.49	1 / 214
		1895.00	19.51	H	4.52	9.05	24.05	0.254	33.00	-8.95	1 / 107
	16-QAM	1870.00	16.45	H	4.49	9.29	21.25	0.133	33.00	-11.75	1 / 214
		1882.50	18.05	H	4.50	9.17	22.72	0.187	33.00	-10.28	1 / 107
		1895.00	18.83	H	4.52	9.05	23.37	0.217	33.00	-9.63	1 / 107
35	QPSK	1867.50	18.04	H	4.49	9.32	22.87	0.194	33.00	-10.13	1 / 186
		1882.50	18.93	H	4.50	9.17	23.60	0.229	33.00	-9.40	1 / 93
		1897.50	19.59	H	4.52	9.03	24.10	0.257	33.00	-8.90	1 / 93
	16-QAM	1867.50	16.45	H	4.49	9.32	21.28	0.134	33.00	-11.72	1 / 186
		1882.50	17.97	H	4.50	9.17	22.64	0.184	33.00	-10.36	1 / 93
		1897.50	18.82	H	4.52	9.03	23.33	0.215	33.00	-9.67	1 / 186
30	QPSK	1865.00	18.05	H	4.48	9.34	22.91	0.195	33.00	-10.09	1 / 158
		1882.50	18.97	H	4.50	9.17	23.64	0.231	33.00	-9.36	1 / 158
		1900.00	19.57	H	4.52	9.01	24.06	0.255	33.00	-8.94	1 / 79
	16-QAM	1865.00	16.30	H	4.48	9.34	21.16	0.131	33.00	-11.84	1 / 158
		1882.50	18.05	H	4.50	9.17	22.72	0.187	33.00	-10.28	1 / 79
		1900.00	18.89	H	4.52	9.01	23.38	0.218	33.00	-9.62	1 / 1
25	QPSK	1862.50	17.90	H	4.48	9.36	22.78	0.190	33.00	-10.22	1 / 131
		1882.50	19.03	H	4.50	9.17	23.70	0.234	33.00	-9.30	1 / 131
		1902.50	19.72	H	4.52	8.97	24.17	0.261	33.00	-8.83	1 / 131
	16-QAM	1862.50	16.13	H	4.48	9.36	21.01	0.126	33.00	-11.99	1 / 131
		1882.50	18.16	H	4.50	9.17	22.83	0.192	33.00	-10.17	1 / 131
		1902.50	19.01	H	4.52	8.97	23.46	0.222	33.00	-9.54	1 / 1
20	QPSK	1860.00	17.85	H	4.48	9.39	22.76	0.189	33.00	-10.24	1 / 104
		1882.50	18.96	H	4.50	9.17	23.63	0.231	33.00	-9.37	1 / 104
		1905.00	19.93	H	4.52	8.93	24.34	0.272	33.00	-8.66	1 / 104
	16-QAM	1860.00	16.17	H	4.48	9.39	21.08	0.128	33.00	-11.92	1 / 52
		1882.50	18.20	H	4.50	9.17	22.87	0.194	33.00	-10.13	1 / 104
		1905.00	19.03	H	4.52	8.93	23.44	0.221	33.00	-9.56	1 / 104
15	QPSK	1857.50	17.85	H	4.48	9.41	22.78	0.190	33.00	-10.22	1 / 77
		1882.50	18.96	H	4.50	9.17	23.63	0.231	33.00	-9.37	1 / 77
		1907.50	19.78	H	4.53	8.89	24.14	0.259	33.00	-8.86	1 / 1
	16-QAM	1857.50	16.21	H	4.48	9.41	21.14	0.130	33.00	-11.86	1 / 39
		1882.50	18.14	H	4.50	9.17	22.81	0.191	33.00	-10.19	1 / 77
		1907.50	19.17	H	4.53	8.89	23.53	0.225	33.00	-9.47	1 / 77
10	QPSK	1855.00	17.81	H	4.47	9.43	22.77	0.189	33.00	-10.23	1 / 25
		1882.50	19.01	H	4.50	9.17	23.68	0.233	33.00	-9.32	1 / 25
		1910.00	19.86	H	4.53	8.85	24.18	0.262	33.00	-8.82	1 / 25
	16-QAM	1855.00	16.15	H	4.47	9.43	21.11	0.129	33.00	-11.89	1 / 1
		1882.50	18.18	H	4.50	9.17	22.85	0.193	33.00	-10.15	1 / 50
		1910.00	19.23	H	4.53	8.85	23.55	0.226	33.00	-9.45	1 / 25
5	QPSK	1852.50	17.72	H	4.46	9.46	22.72	0.187	33.00	-10.28	1 / 1
		1882.50	19.09	H	4.50	9.17	23.76	0.238	33.00	-9.24	1 / 1
		1912.50	19.51	H	4.53	8.82	23.80	0.240	33.00	-9.20	1 / 1
	16-QAM	1852.50	16.07	H	4.46	9.46	21.07	0.128	33.00	-11.93	1 / 23
		1882.50	18.24	H	4.50	9.17	22.91	0.195	33.00	-10.09	1 / 23
		1912.50	19.11	H	4.53	8.82	23.40	0.219	33.00	-9.60	1 / 1
40	QPSK	1870.00	16.96	H	4.49	9.29	21.76	0.150	33.00	-11.24	216/0
		1882.50	17.82	H	4.50	9.17	22.49	0.177	33.00	-10.51	216/0
		1895.00	18.57	H	4.52	9.05	23.11	0.205	33.00	-9.89	216/0
	16-QAM	1870.00	15.07	H	4.49	9.29	19.87	0.097	33.00	-13.13	216/0
		1882.50	16.75	H	4.50	9.17	21.42	0.139	33.00	-11.58	216/0
		1895.00	17.43	H	4.52	9.05	21.97	0.157	33.00	-11.03	216/0

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.

WCDMA Band 2

REL99 ANT F	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4792147575 Date: 2026-03-23 Test Engineer: 27089 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 2 Mode: Rel99 Band 2 Harmonics Test Voltage: AC 120 V, 60 Hz									
	f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4MHz										
	3704.80	-76.6	H	3.0	0.7	11.74	-64.2	-13.0	-51.2	NF
	5557.20	-78.0	H	3.0	4.3	11.74	-62.0	-13.0	-49.0	NF
	7409.60	-80.0	H	3.0	8.1	11.74	-60.2	-13.0	-47.2	NF
Mid Ch, 1880MHz										
	3760.00	-76.7	H	3.0	0.9	11.74	-64.0	-13.0	-51.0	NF
	5640.00	-77.9	H	3.0	4.4	11.74	-61.7	-13.0	-48.7	NF
	7520.00	-79.8	H	3.0	8.3	11.74	-59.7	-13.0	-46.7	NF
High Ch, 1907.6MHz										
	3815.20	-76.6	V	3.0	1.2	11.74	-63.7	-13.0	-50.7	NF
	5722.80	-78.0	V	3.0	4.6	11.74	-61.6	-13.0	-48.6	NF
	7630.40	-79.6	V	3.0	8.5	11.74	-59.4	-13.0	-46.4	NF
	3815.20	-76.5	H	3.0	1.2	11.74	-63.6	-13.0	-50.6	NF
	5722.80	-78.1	H	3.0	4.6	11.74	-61.7	-13.0	-48.7	NF
	7630.40	-79.6	H	3.0	8.5	11.74	-59.4	-13.0	-46.4	NF
NF : Noise Floor										

LTE Band 25

5 MHz QPSK ANT B	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4792147575 Date: 2026-03-19 Test Engineer: 28775 Configuration: EUT / AC Adapter, X-Position, FF Location: Chamber 2 Mode: LTE_QPSK Band 25 Harmonics, 5MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
	f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1852.5MHz									
	3705.00	-76.6	V	3.0	0.7	11.74	-64.2	-13.0	-51.2	NF
	5557.50	-65.0	V	3.0	4.3	11.74	-49.0	-13.0	-36.0	
	7410.00	-80.0	V	3.0	8.1	11.74	-60.2	-13.0	-47.2	NF
	9262.50	-82.1	V	3.0	11.9	11.74	-58.5	-13.0	-45.5	NF
	11115.00	-83.3	V	3.0	15.5	11.74	-56.0	-13.0	-43.0	NF
	Mid Ch, 1882.5MHz									
	3765.00	-76.3	V	3.0	1.0	11.74	-63.6	-13.0	-50.6	
	5647.50	-69.0	V	3.0	4.4	11.74	-52.8	-13.0	-39.8	
	7530.00	-79.9	V	3.0	8.3	11.74	-59.8	-13.0	-46.8	NF
	9412.50	-81.5	V	3.0	12.4	11.74	-57.4	-13.0	-44.4	
	11295.00	-83.6	V	3.0	15.8	11.74	-56.0	-13.0	-43.0	NF
	High Ch, 1912.5MHz									
	3825.00	-76.2	V	3.0	1.2	11.74	-63.3	-13.0	-50.3	
	5737.50	-64.4	V	3.0	4.7	11.74	-48.0	-13.0	-35.0	
	7650.00	-79.8	V	3.0	8.5	11.74	-59.6	-13.0	-46.6	NF
	9562.50	-82.2	V	3.0	12.7	11.74	-57.7	-13.0	-44.7	
	11475.00	-83.3	V	3.0	16.3	11.74	-55.2	-13.0	-42.2	NF
	3825.00	-76.0	H	3.0	1.2	11.74	-63.1	-13.0	-50.1	
	5737.50	-71.5	H	3.0	4.7	11.74	-55.1	-13.0	-42.1	
	7650.00	-79.9	H	3.0	8.5	11.74	-59.6	-13.0	-46.6	NF
	9562.50	-82.4	H	3.0	12.7	11.74	-58.0	-13.0	-45.0	NF
	11475.00	-83.3	H	3.0	16.3	11.74	-55.2	-13.0	-42.2	NF
	NF : Noise Floor									
5 MHz QPSK ANT F	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Samsung Project #: 4792147575 Date: 2026-03-18 Test Engineer: 27089 Configuration: EUT / AC Adapter, X-Position, Open Location: Chamber 2 Mode: LTE_QPSK Band 25 Harmonics, 5MHz Bandwidth Test Voltage: AC 120 V, 60 Hz									
	f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1852.5MHz									
	3705.00	-76.7	H	3.0	0.7	11.74	-64.2	-13.0	-51.2	NF
	5557.50	-78.1	H	3.0	4.3	11.74	-62.1	-13.0	-49.1	NF
	7410.00	-80.0	H	3.0	8.1	11.74	-60.2	-13.0	-47.2	NF
	Mid Ch, 1882.5MHz									
	3765.00	-76.6	H	3.0	1.0	11.74	-63.9	-13.0	-50.9	NF
	5647.50	-77.7	H	3.0	4.4	11.74	-61.6	-13.0	-48.6	NF
	7530.00	-79.7	H	3.0	8.3	11.74	-59.7	-13.0	-46.7	NF
	High Ch, 1912.5MHz									
	3825.00	-76.9	V	3.0	1.2	11.74	-63.9	-13.0	-50.9	NF
	5737.50	-78.0	V	3.0	4.7	11.74	-61.6	-13.0	-48.6	NF
	7650.00	-79.8	V	3.0	8.5	11.74	-59.5	-13.0	-46.5	NF
	3825.00	-76.8	H	3.0	1.2	11.74	-63.9	-13.0	-50.9	NF
	5737.50	-78.1	H	3.0	4.7	11.74	-61.7	-13.0	-48.7	NF
	7650.00	-79.8	H	3.0	8.5	11.74	-59.5	-13.0	-46.5	NF
	NF : Noise Floor									

NR Band n25 DFT-s OFDM

40 MHz

QPSK

ANT B

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Voltage:

Samsung

4792147575

2026-03-12

28775

EUT / Z-Position, FF

Chamber 2

5G NR_QPSK NR n25 Harmonics, 40MHz Bandwidth

AC 120 V, 60 Hz

f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1870MHz									
3740.00	-76.1	H	3.0	0.8	11.74	-63.5	-13.0	-50.5	
5610.00	-76.5	H	3.0	4.3	11.74	-60.5	-13.0	-47.5	
7480.00	-79.9	H	3.0	8.2	11.74	-60.0	-13.0	-47.0	NF
9350.00	-81.8	H	3.0	12.1	11.74	-58.0	-13.0	-45.0	NF
Mid Ch, 1882.5MHz									
3765.00	-76.6	V	3.0	1.0	11.74	-63.9	-13.0	-50.9	NF
5647.50	-75.8	V	3.0	4.4	11.74	-59.6	-13.0	-46.6	
7530.00	-79.7	V	3.0	8.3	11.74	-59.7	-13.0	-46.7	NF
9412.50	-81.9	V	3.0	12.4	11.74	-57.8	-13.0	-44.8	NF
3765.00	-76.2	H	3.0	1.0	11.74	-63.5	-13.0	-50.5	
5647.50	-74.9	H	3.0	4.4	11.74	-58.7	-13.0	-45.7	
7530.00	-79.7	H	3.0	8.3	11.74	-59.7	-13.0	-46.7	NF
9412.50	-81.9	H	3.0	12.4	11.74	-57.8	-13.0	-44.8	NF
High Ch, 1895MHz									
3790.00	-76.0	H	3.0	1.1	11.74	-63.1	-13.0	-50.1	
5685.00	-76.2	H	3.0	4.5	11.74	-59.9	-13.0	-46.9	
7580.00	-79.6	H	3.0	8.3	11.74	-59.5	-13.0	-46.5	NF
9475.00	-81.7	H	3.0	12.6	11.74	-57.4	-13.0	-44.4	NF
NF : Noise Floor									

20 MHz

QPSK

ANT F

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Voltage:

Samsung

4792147575

2026-03-16

27089

EUT / AC Adapter, X-Position, Open

Chamber 2

5G NR_QPSK NR n25 Harmonics, 20MHz Bandwidth

AC 120 V, 60 Hz

f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860MHz									
3720.00	-76.6	H	3.0	0.7	11.74	-64.1	-13.0	-51.1	NF
5580.00	-78.2	H	3.0	4.3	11.74	-62.2	-13.0	-49.2	NF
7440.00	-79.7	H	3.0	8.1	11.74	-59.8	-13.0	-46.8	NF
Mid Ch, 1882.5MHz									
3765.00	-76.6	V	3.0	1.0	11.74	-63.9	-13.0	-50.9	NF
5647.50	-77.6	V	3.0	4.4	11.74	-61.4	-13.0	-48.4	NF
7530.00	-79.5	V	3.0	8.3	11.74	-59.4	-13.0	-46.4	NF
3765.00	-76.6	H	3.0	1.0	11.74	-63.9	-13.0	-50.9	NF
5647.50	-77.6	H	3.0	4.4	11.74	-61.4	-13.0	-48.4	NF
7530.00	-79.4	H	3.0	8.3	11.74	-59.4	-13.0	-46.4	NF
High Ch, 1905MHz									
3810.00	-76.7	H	3.0	1.1	11.74	-63.8	-13.0	-50.8	NF
5715.00	-77.8	H	3.0	4.6	11.74	-61.4	-13.0	-48.4	NF
7620.00	-79.6	H	3.0	8.4	11.74	-59.5	-13.0	-46.5	NF
NF : Noise Floor									

END OF REPORT