

Radiated Spurious Emission

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

After the pretest, Main Antenna was selected as the worst antenna.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes. EUT stand-up position (Z axis), lie-down position (X, Y axis). Receiver antenna polarization (Horizontal and Vertical), the worst emission was found in position and the worst case and worst Antenna was recorded.

	Main Antenna
GSM	Y axis, Vertical polarization
WCDMA	Y axis, Vertical polarization
LTE	Y axis, Vertical polarization

Main Antenna

GSM 850 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.30	-65.29	1.70	8.70	Vertical	-60.44	-13.00	47.44	46
3	2509.50	-67.09	2.30	12.00	Vertical	-59.54	-13.00	46.54	175
4	3346.40	-69.28	2.70	12.70	Vertical	-61.43	-13.00	48.43	66
5	4183.00	-67.19	3.00	12.50	Vertical	-59.84	-13.00	46.84	175
6	5019.60	-64.77	3.40	12.50	Vertical	-57.82	-13.00	44.82	86
7	5856.20	-62.91	3.40	12.80	Vertical	-55.66	-13.00	42.66	4
8	6692.80	-57.13	4.10	11.50	Vertical	-51.88	-13.00	38.88	175
9	7529.40	-55.17	4.20	12.20	Vertical	-49.32	-13.00	36.32	68
10	8366.00	-57.98	4.30	12.50	Vertical	-51.93	-13.00	38.93	175

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

GSM 1900 CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-71.19	2.60	12.50	Vertical	-61.29	-13.00	48.29	86
3	5640.00	-68.57	3.30	12.50	Vertical	-59.37	-13.00	46.37	315
4	7520.00	-57.82	4.20	12.20	Vertical	-49.82	-13.00	36.82	90
5	9400.00	-58.43	4.30	11.10	Vertical	-51.63	-13.00	38.63	86
6	11280.00	-56.39	5.90	11.90	Vertical	-50.39	-13.00	37.39	175
7	13160.00	-57.49	5.70	14.00	Vertical	-49.19	-13.00	36.19	86
8	15040.00	-55.15	5.80	13.10	Vertical	-47.85	-13.00	34.85	4
9	16920.00	-56.26	6.10	14.60	Vertical	-47.76	-13.00	34.76	112
10	18800.00	--	--	--	--	--	--	--	--

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

WCDMA Band II CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-79.35	2.60	12.50	Vertical	-69.45	-13.00	56.45	17
3	5640.00	-65.47	3.30	12.50	Vertical	-56.27	-13.00	43.27	45
4	7520.00	-55.61	4.20	12.20	Vertical	-47.61	-13.00	34.61	132
5	9400.00	-54.98	4.30	11.10	Vertical	-48.18	-13.00	35.18	86
6	11280.00	-52.89	5.90	11.90	Vertical	-46.89	-13.00	33.89	123
7	13160.00	-53.17	5.70	14.00	Vertical	-44.87	-13.00	31.87	76
8	15040.00	-54.03	5.80	13.10	Vertical	-46.73	-13.00	33.73	46
9	16920.00	-53.57	6.10	14.60	Vertical	-45.07	-13.00	32.07	241
10	18800.00	--	--	--	--	--	--	--	--

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.20	-78.61	2.70	12.70	Vertical	-68.61	-13.00	55.61	77
3	5197.80	-73.61	3.20	12.50	Vertical	-64.31	-13.00	51.31	185
4	6930.40	-68.98	4.20	11.80	Vertical	-61.38	-13.00	48.38	85
5	8663.00	-64.67	4.40	12.50	Vertical	-56.57	-13.00	43.57	76
6	10395.60	-60.71	4.70	11.30	Vertical	-54.11	-13.00	41.11	123
7	12128.20	-63.46	5.20	13.80	Vertical	-54.86	-13.00	41.86	76
8	13860.80	-58.83	5.70	11.30	Vertical	-53.23	-13.00	40.23	2
9	15593.40	-66.51	6.10	16.80	Vertical	-55.81	-13.00	42.81	241
10	17326.00	-61.97	6.10	14.20	Vertical	-53.87	-13.00	40.87	33

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

WCDMA Band V CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1671.33	-71.27	1.70	8.70	Vertical	-66.42	-13.00	53.42	16
3	2511.60	-68.84	2.30	12.00	Vertical	-61.29	-13.00	48.29	7
4	3346.40	-67.87	2.70	12.70	Vertical	-60.02	-13.00	47.02	123
5	4183.00	-66.17	3.00	12.50	Vertical	-58.82	-13.00	45.82	3
6	5019.60	-63.55	3.40	12.50	Vertical	-56.60	-13.00	43.60	86
7	5856.20	-62.24	3.40	12.80	Vertical	-54.99	-13.00	41.99	165
8	6692.80	-58.57	4.10	11.50	Vertical	-53.32	-13.00	40.32	75
9	7529.40	-54.56	4.20	12.20	Vertical	-48.71	-13.00	35.71	35
10	8366.00	-56.38	4.30	12.50	Vertical	-50.33	-13.00	37.33	11
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE Band 2 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
20MHz	2	3740.00	-69.31	2.60	12.50	Vertical	-59.41	-13.00	46.41	76
	3	5610.00	-64.74	3.30	12.50	Vertical	-55.54	-13.00	42.54	75
	4	7480.00	-54.85	4.20	12.20	Vertical	-46.85	-13.00	33.85	86
	5	9350.00	-53.56	4.30	11.10	Vertical	-46.76	-13.00	33.76	33
	6	11220.00	-51.10	5.90	11.90	Vertical	-45.10	-13.00	32.10	11
	7	13090.00	-53.79	5.70	14.00	Vertical	-45.49	-13.00	32.49	22
	8	14960.00	-51.18	5.80	13.10	Vertical	-43.88	-13.00	30.88	36
	9	16830.00	-53.05	6.10	14.60	Vertical	-44.55	-13.00	31.55	175
	10	18700.00	--	--	--	--	--	--	--	--
Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.										

LTE Band 4 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
20MHz	2	3445.00	-79.08	2.70	12.70	Vertical	-69.08	-13.00	56.08	134
	3	5167.50	-61.58	3.20	12.50	Vertical	-52.28	-13.00	39.28	89
	4	6890.00	-68.45	4.20	11.80	Vertical	-60.85	-13.00	47.85	87
	5	8612.50	-65.05	4.40	12.50	Vertical	-56.95	-13.00	43.95	76
	6	10335.00	-60.66	4.70	11.30	Vertical	-54.06	-13.00	41.06	45
	7	12057.50	-63.97	5.20	13.80	Vertical	-55.37	-13.00	42.37	67
	8	13780.00	-56.64	5.70	11.30	Vertical	-51.04	-13.00	38.04	34
	9	15502.50	-65.94	6.10	16.80	Vertical	-55.24	-13.00	42.24	76
	10	17225.00	-60.71	6.10	14.20	Vertical	-52.61	-13.00	39.61	211

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 5 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
10MHz	2	3342.00	-64.95	1.70	8.70	Vertical	-60.10	-13.00	47.10	54
	3	4177.50	-65.47	2.30	12.00	Vertical	-57.92	-13.00	44.92	45
	4	5013.00	-63.84	2.70	12.70	Vertical	-55.99	-13.00	42.99	186
	5	5848.50	-62.27	3.00	12.50	Vertical	-54.92	-13.00	41.92	345
	6	6684.00	-58.04	3.40	12.50	Vertical	-51.09	-13.00	38.09	33
	7	7519.50	-55.87	3.40	12.80	Vertical	-48.62	-13.00	35.62	45
	8	8355.00	-54.41	4.10	11.50	Vertical	-49.16	-13.00	36.16	23
	9	3342.00	-65.95	4.20	12.20	Vertical	-60.10	-13.00	47.10	54
	10	4177.50	-63.97	4.30	12.50	Vertical	-57.92	-13.00	44.92	45

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 7 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
20MHz	2	5050.00	-59.46	3.40	12.50	Vertical	-50.36	-25.00	25.36	253
	3	7575.00	-56.51	4.40	12.20	Vertical	-48.71	-25.00	23.71	63
	4	10100.00	-54.06	4.70	11.30	Vertical	-47.46	-25.00	22.46	163
	5	12625.00	-53.21	5.40	13.20	Vertical	-45.41	-25.00	20.41	312
	6	15150.00	-53.89	6.10	13.10	Vertical	-46.89	-25.00	21.89	227
	7	17675.00	-52.91	6.10	14.20	Vertical	-44.81	-25.00	19.81	196
	8	20200.00	--	--	--	--	--	--	--	--
	9	22725.00	--	--	--	--	--	--	--	--
	10	25250.00	--	--	--	--	--	--	--	--

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 13 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
10MHz	2	1560.93	-78.56	1.70	8.70	Vertical	-71.56	-40.00	31.56	10
	3	2331.00	-66.97	2.10	12.00	Vertical	-59.22	-13.00	46.22	20
	4	3108.00	-66.53	2.30	13.10	Vertical	-57.88	-13.00	44.88	145
	5	3885.00	-65.03	2.90	12.50	Vertical	-57.58	-13.00	44.58	163
	6	4662.00	-64.10	3.10	12.50	Vertical	-56.85	-13.00	43.85	163
	7	5439.00	-62.81	3.30	12.50	Vertical	-55.76	-13.00	42.76	312
	8	6216.00	-61.25	3.50	12.80	Vertical	-54.10	-13.00	41.10	227
	9	6993.00	-58.70	4.20	11.80	Vertical	-53.25	-13.00	40.25	46
	10	7770.00	-54.89	4.40	12.30	Vertical	-49.14	-13.00	36.14	39

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 26 (824 ~ 849) CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
10MHz	2	1663.00	-70.73	1.70	8.70	Vertical	-65.88	-13.00	52.88	11
	3	2494.50	-68.73	2.30	12.00	Vertical	-61.18	-13.00	48.18	214
	4	3326.00	-67.46	2.70	12.70	Vertical	-59.61	-13.00	46.61	163
	5	4157.50	-64.65	3.00	12.50	Vertical	-57.30	-13.00	44.30	163
	6	4989.00	-65.38	3.40	12.50	Vertical	-58.43	-13.00	45.43	312
	7	5820.50	-62.13	3.40	12.80	Vertical	-54.88	-13.00	41.88	227
	8	6652.00	-57.11	4.10	11.50	Vertical	-51.86	-13.00	38.86	34
	9	7483.50	-52.95	4.20	12.20	Vertical	-47.10	-13.00	34.10	54
	10	8315.00	-55.04	4.30	12.50	Vertical	-48.99	-13.00	35.99	5

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 26 (814 ~ 824) CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
1.4MHz	2	1638.00	-70.96	1.70	8.70	Vertical	-66.11	-13.00	53.11	36
	3	2457.00	-68.67	2.30	12.00	Vertical	-61.12	-13.00	48.12	11
	4	3276.00	-69.50	2.20	13.10	Vertical	-60.75	-13.00	47.75	163
	5	4095.00	-64.60	3.00	12.50	Vertical	-57.25	-13.00	44.25	312
	6	4914.00	-64.52	3.10	12.50	Vertical	-57.27	-13.00	44.27	227
	7	5733.00	-62.45	3.40	12.50	Vertical	-55.50	-13.00	42.50	163
	8	6552.00	-57.62	3.80	11.50	Vertical	-52.07	-13.00	39.07	312
	9	7371.00	-53.98	4.20	12.20	Vertical	-48.13	-13.00	35.13	227
	10	8190.00	-54.65	4.30	12.30	Vertical	-48.80	-13.00	35.80	84

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 38 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
15MHz	2	5175.00	-64.71	3.20	12.50	Vertical	-55.41	-25.00	30.41	14
	3	7762.50	-54.26	4.40	12.30	Vertical	-46.36	-25.00	21.36	55
	4	10350.00	-54.02	4.70	11.80	Vertical	-46.92	-25.00	21.92	78
	5	12937.50	-54.40	5.40	14.00	Vertical	-45.80	-25.00	20.80	38
	6	15525.00	-59.96	6.10	16.80	Vertical	-49.26	-25.00	24.26	25
	7	18112.50	--	--	--	--	--	--	--	--
	8	20700.00	--	--	--	--	--	--	--	--
	9	23287.50	--	--	--	--	--	--	--	--
	10	25875.00	--	--	--	--	--	--	--	--

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 66 CH-Middle

Band width	Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
10MHz	2	3480.00	-69.14	2.70	12.70	Vertical	-59.14	-13.00	46.14	36
	3	5220.00	-66.19	3.20	12.50	Vertical	-56.89	-13.00	43.89	96
	4	6960.00	-61.22	4.20	11.80	Vertical	-53.62	-13.00	40.62	36
	5	8700.00	-56.24	4.40	12.50	Vertical	-48.14	-13.00	35.14	146
	6	10440.00	-51.96	4.70	11.80	Vertical	-44.86	-13.00	31.86	78
	7	12180.00	-54.38	5.20	13.80	Vertical	-45.78	-13.00	32.78	38
	8	13920.00	-53.05	5.70	13.20	Vertical	-45.55	-13.00	32.55	56
	9	15660.00	-56.88	6.10	16.80	Vertical	-46.18	-13.00	33.18	32
	10	17400.00	-54.12	6.10	14.20	Vertical	-46.02	-13.00	33.02	12

Note: 1. The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.