

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.

Because the Margin is relatively large, only one worst point is recorded in the report.

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.

GSM	X axis, Horizontal polarization
WCDMA	X axis, Horizontal polarization
LTE	Z axis, Vertical polarization

Configuration 1:

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	1673.13	-51.22	1.70	8.70	Horizontal	-46.37	-13.00	33.37	278
3	2509.53	-48.62	2.30	12.00	Horizontal	-41.07	-13.00	28.07	136
4	3346.40	--	--	--	--	--	--	--	--
5	4183.00	--	--	--	--	--	--	--	--
6	5019.60	--	--	--	--	--	--	--	--
7	5856.20	--	--	--	--	--	--	--	--
8	6692.80	--	--	--	--	--	--	--	--
9	7529.40	--	--	--	--	--	--	--	--
10	8366.00	-54.02	4.30	12.50	Horizontal	-47.97	-13.00	34.97	18

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 Horizontal 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	-56.05	2.60	12.50	Horizontal	-46.15	-13.00	33.15	96
3	5640.00	-58.50	3.30	12.50	Horizontal	-49.30	-13.00	36.30	17
4	7520.00	--	--	--	--	--	--	--	--
5	9400.00	-50.64	4.30	11.10	Horizontal	-43.84	-13.00	30.84	174
6	11280.00	--	--	--	--	--	--	--	--
7	13160.00	--	--	--	--	--	--	--	--
8	15040.00	--	--	--	--	--	--	--	--
9	16920.00	--	--	--	--	--	--	--	--
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 Horizontal 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	--	--	--	--	--	--	--	--
3	5640.00	-59.64	3.30	12.50	Horizontal	-50.44	-13.00	37.44	96
4	7520.00	--	--	--	--	--	--	--	--
5	9400.00	-50.07	4.30	11.10	Horizontal	-43.27	-13.00	30.27	178
6	11280.00	--	--	--	--	--	--	--	--
7	13160.00	--	--	--	--	--	--	--	--
8	15040.00	--	--	--	--	--	--	--	--
9	16920.00	--	--	--	--	--	--	--	--
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 Horizontal 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	-69.55	2.70	12.70	Horizontal	-59.55	-13.00	46.55	16
3	5197.80	--	--	--	--	--	--	--	--
4	6930.40	--	--	--	--	--	--	--	--
5	8663.00	--	--	--	--	--	--	--	--
6	10395.60	--	--	--	--	--	--	--	--
7	12128.20	--	--	--	--	--	--	--	--
8	13860.80	-56.39	5.70	11.30	Horizontal	-50.79	-13.00	37.79	15
9	15593.40	--	--	--	--	--	--	--	--
10	17326.00	--	--	--	--	--	--	--	--

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 Horizontal 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	1671.45	-54.69	1.70	8.70	Horizontal	-49.84	-13.00	36.84	93
3	2510.40	-57.36	2.30	12.00	Horizontal	-49.81	-13.00	36.81	111
4	3346.40	--	--	--	--	--	--	--	--
5	4183.00	--	--	--	--	--	--	--	--
6	5019.60	--	--	--	--	--	--	--	--
7	5856.20	--	--	--	--	--	--	--	--
8	6692.80	--	--	--	--	--	--	--	--
9	7529.40	--	--	--	--	--	--	--	--
10	8366.00	-52.87	4.30	12.50	Horizontal	-46.82	-13.00	33.82	19

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 Horizontal 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)
5MHz	2	3755.50	--	--	--	--	--	--	--	--
	3	5632.50	-54.90	3.30	12.50	Vertical	-45.70	-13.00	32.70	25
	4	7510.00	--	--	--	--	--	--	--	--
	5	9387.50	-43.20	4.30	11.10	Vertical	-36.40	-13.00	23.40	3
	6	11265.00	--	--	--	--	--	--	--	--
	7	13142.50	--	--	--	--	--	--	--	--
	8	15020.00	--	--	--	--	--	--	--	--
	9	16897.50	--	--	--	--	--	--	--	--
	10	18775.00	--	--	--	--	--	--	--	--

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)
5MHz	2	3460.50	-63.34	2.70	12.70	Vertical	-53.34	-13.00	40.34	134
	3	5191.50	-61.25	3.20	12.50	Vertical	-51.95	-13.00	38.95	89
	4	6930.00	--	--	--	--	--	--	--	--
	5	8662.50	--	--	--	--	--	--	--	--
	6	10380.00	--	--	--	--	--	--	--	--
	7	12110.00	--	--	--	--	--	--	--	--
	8	13840.00	--	--	--	--	--	--	--	--
	9	15570.00	--	--	--	--	--	--	--	--
	10	17300.00	--	--	--	--	--	--	--	--

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 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)
5MHz	2	1668.60	-57.20	1.70	8.70	Vertical	-52.35	-13.00	39.35	36
	3	2503.30	-52.30	2.30	12.00	Vertical	-44.75	-13.00	31.75	241
	4	3337.50	--	--	--	--	--	--	--	--
	5	4171.88	--	--	--	--	--	--	--	--
	6	5006.25	--	--	--	--	--	--	--	--
	7	5840.63	--	--	--	--	--	--	--	--
	8	6675.00	--	--	--	--	--	--	--	--
	9	7509.38	--	--	--	--	--	--	--	--
	10	8343.75	-53.57	4.30	12.50	Vertical	-47.52	-13.00	34.52	66

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)
5MHz	2	5052.20	--	--	--	--	--	--	--	--
	3	7578.30	--	--	--	--	--	--	--	--
	4	10104.40	--	--	--	--	--	--	--	--
	5	12630.50	-50.79	5.40	13.20	Vertical	-42.99	-25.00	17.99	38
	6	15156.60	--	--	--	--	--	--	--	--
	7	17745.00	--	--	--	--	--	--	--	--
	8	20208.80	--	--	--	--	--	--	--	--
	9	22734.90	--	--	--	--	--	--	--	--
	10	25261.00	--	--	--	--	--	--	--	--

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 12 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)
5MHz	2	1410.60	-53.07	1.70	8.70	Vertical	-48.22	-13.00	35.22	47.00
	3	2115.90	-53.85	2.10	11.10	Vertical	-47.00	-13.00	34.00	69.00
	4	2820.00	-64.48	2.30	13.10	Vertical	-55.83	-13.00	42.83	38
	5	3525.00	--	--	--	--	--	--	--	--
	6	4230.00	--	--	--	--	--	--	--	--
	7	4935.00	--	--	--	--	--	--	--	--
	8	5640.00	--	--	--	--	--	--	--	--
	9	6345.00	--	--	--	--	--	--	--	--
	10	7050.00	-57.49	4.20	11.80	Vertical	-52.04	-13.00	39.04	0

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)
5MHz	2	1559.84	-53.28	1.70	8.70	Vertical	-46.28	-40.00	6.28	65
	3	2339.40	-50.81	2.10	12.00	Vertical	-43.06	-13.00	30.06	20
	4	3118.00	--	--	--	--	--	--	--	--
	5	3897.50	--	--	--	--	--	--	--	--
	6	4677.00	--	--	--	--	--	--	--	--
	7	5456.50	--	--	--	--	--	--	--	--
	8	6236.00	--	--	--	--	--	--	--	--
	9	7015.50	--	--	--	--	--	--	--	--
	10	7795.00	-53.87	4.40	12.30	Vertical	-48.12	-13.00	35.12	214
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 17 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)
5MHz	2	1415.00	-52.44	1.70	8.70	Vertical	-47.59	-13.00	34.59	0
	3	2122.50	-57.89	2.10	11.10	Vertical	-51.04	-13.00	38.04	15
	4	2830.00	-63.58	2.50	13.10	Vertical	-55.13	-13.00	42.13	278
	5	3537.50	--	--	--	--	--	--	--	--
	6	4245.00	--	--	--	--	--	--	--	--
	7	4952.50	--	--	--	--	--	--	--	--
	8	5660.00	--	--	--	--	--	--	--	--
	9	6367.50	--	--	--	--	--	--	--	--
	10	7075.00	-56.91	4.20	12.20	Vertical	-51.06	-13.00	38.06	65
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 25 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)
5MHz	2	3760.00	--	--	--	--	--	--	--	--
	3	5640.00	-55.15	3.30	12.50	Vertical	-45.95	-13.00	32.95	98
	4	7520.00	--	--	--	--	--	--	--	--
	5	9400.00	-44.33	4.30	11.10	Vertical	-37.53	-13.00	24.53	66
	6	11280.00	--	--	--	--	--	--	--	--
	7	13160.00	--	--	--	--	--	--	--	--
	8	15040.00	--	--	--	--	--	--	--	--
	9	16920.00	--	--	--	--	--	--	--	--
	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.

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)
5MHz	2	1668.00	-59.19	1.70	8.70	Vertical	-54.34	-13.00	41.34	11
	3	2502.00	-52.41	2.30	12.00	Vertical	-44.86	-13.00	31.86	214
	4	3336.00	--	--	--	--	--	--	--	--
	5	4170.00	--	--	--	--	--	--	--	--
	6	5004.00	--	--	--	--	--	--	--	--
	7	5838.00	--	--	--	--	--	--	--	--
	8	6672.00	--	--	--	--	--	--	--	--
	9	7506.00	--	--	--	--	--	--	--	--
	10	8340.00	-52.43	4.30	12.50	Vertical	-46.38	-13.00	33.38	15

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)
5MHz	2	1633.00	-62.79	1.70	8.70	Vertical	-57.94	-13.00	44.94	36
	3	2449.50	-58.73	2.30	12.00	Vertical	-51.18	-13.00	38.18	11
	4	3266.00	--	--	--	--	--	--	--	--
	5	4082.50	--	--	--	--	--	--	--	--
	6	4899.00	--	--	--	--	--	--	--	--
	7	5715.50	--	--	--	--	--	--	--	--
	8	6532.00	--	--	--	--	--	--	--	--
	9	7348.50	--	--	--	--	--	--	--	--
	10	8165.00	-52.89	4.30	12.30	Vertical	-47.04	-13.00	34.04	0

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)
5MHz	2	5185.00	--	--	--	--	--	--	--	--
	3	7777.50	--	--	--	--	--	--	--	--
	4	10370.00	--	--	--	--	--	--	--	--
	5	12962.50	-52.35	5.40	14.00	Vertical	-43.75	-25.00	18.75	18
	6	15555.00	--	--	--	--	--	--	--	--
	7	18147.50	--	--	--	--	--	--	--	--
	8	20740.00	--	--	--	--	--	--	--	--
	9	23332.50	--	--	--	--	--	--	--	--
	10	25925.00	--	--	--	--	--	--	--	--

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 41 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)
5MHz	2	5181.00	--	--	--	--	--	--	--	--
	3	7771.50	--	--	--	--	--	--	--	--
	4	10362.00	--	--	--	--	--	--	--	--
	5	13952.50	-52.84	5.40	14.00	Vertical	-44.24	-25.00	19.24	88
	6	15543.00	--	--	--	--	--	--	--	--
	7	18133.50	--	--	--	--	--	--	--	--
	8	20653.20	--	--	--	--	--	--	--	--
	9	23234.85	--	--	--	--	--	--	--	--
	10	25816.50	--	--	--	--	--	--	--	--

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)
5MHz	2	3485.60	-60.88	2.70	12.70	Vertical	-50.88	-13.00	37.88	55
	3	5229.00	--	--	--	--	--	--	--	--
	4	6972.00	--	--	--	--	--	--	--	--
	5	8715.00	--	--	--	--	--	--	--	--
	6	10458.00	--	--	--	--	--	--	--	--
	7	12201.00	--	--	--	--	--	--	--	--
	8	13944.00	--	--	--	--	--	--	--	--
	9	15687.00	--	--	--	--	--	--	--	--
	10	17430.00	--	--	--	--	--	--	--	--

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 71 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)
5MHz	2	1356.00	-52.60	1.70	8.70	Vertical	-47.754	-13.00	34.75	185
	3	2034.00	-50.57	2.10	11.10	Vertical	-43.72	-13.00	30.72	76
	4	2712.00	-66.77	2.30	13.10	Vertical	-58.12	-13.00	45.12	87
	5	3390.00	--	--	--	--	--	--	--	--
	6	4068.00	--	--	--	--	--	--	--	--
	7	4746.00	--	--	--	--	--	--	--	--
	8	5424.00	--	--	--	--	--	--	--	--
	9	6102.00	--	--	--	--	--	--	--	--
	10	6780.00	-58.12	4.20	11.80	Vertical	-52.67	-13.00	39.67	54

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.

Configuration 2

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	1673.13	-61.92	1.70	8.70	Horizontal	-57.07	-13.00	44.07	90
3	2509.53	-46.86	2.30	12.00	Horizontal	-39.31	-13.00	26.31	45
4	3346.40	-62.93	2.70	12.70	Horizontal	-55.08	-13.00	42.08	225
5	4183.00	--	--	--	--	--	--	--	--
6	5019.60	--	--	--	--	--	--	--	--
7	5856.20	--	--	--	--	--	--	--	--
8	6692.80	--	--	--	--	--	--	--	--
9	7529.40	--	--	--	--	--	--	--	--
10	8366.00	--	--	--	--	--	--	--	--
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 Horizontal position.									

WCDMA Band II CH-Middle

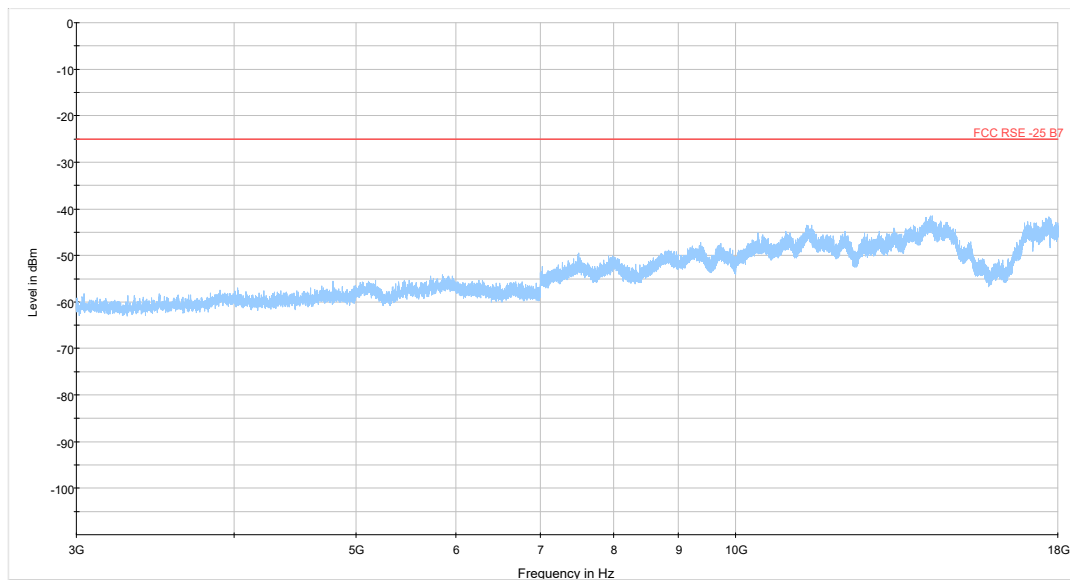
Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3760.00	-71.94	2.60	12.50	Horizontal	-62.04	-13.00	49.04	43
3	5640.00	--	--	--	--	--	--	--	--
4	7520.00	--	--	--	--	--	--	--	--
5	9400.00	--	--	--	--	--	--	--	--
6	11280.00	--	--	--	--	--	--	--	--
7	13160.00	--	--	--	--	--	--	--	--
8	15040.00	--	--	--	--	--	--	--	--
9	16920.00	--	--	--	--	--	--	--	--
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 Horizontal 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)
5MHz	2	5052.20	--	--	--	--	--	--	--	--
	3	7578.30	--	--	--	--	--	--	--	--
	4	10104.40	--	--	--	--	--	--	--	--
	5	12630.50	-53.83	5.40	13.20	Vertical	-46.03	-25.00	21.03	74
	6	15156.60	--	--	--	--	--	--	--	--
	7	17745.00	--	--	--	--	--	--	--	--
	8	20208.80	--	--	--	--	--	--	--	--
	9	22734.90	--	--	--	--	--	--	--	--
	10	25261.00	--	--	--	--	--	--	--	--

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 7