RF Exposure Statement

1. LIMITS

According to §1.1310 and §2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
0.3 - 1.34	614	1.63	*(100)	30
1.34 - 30	824/f	2.19/f	*(180/ f^2)	30
30 - 300	27.5	0.073	0.2	30
300 - 1500	.....	.....	f/1500	30
1500 - 100.000	.....	.....	1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

S = Power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

2-1. CDMA BAND

Max Peak output Power at antenna input terminal (dBm)	26.000
Max Peak output Power at antenna input terminal (mW)	398.107
Prediction distance (cm)	20.000
Prediction frequency (MHz)	824.700
Antenna Gain(typical) (dBi)	-2.400
Antenna Gain(numeric)	0.575
Power density at prediction frequency (mW/cm²)	0.04558
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.550

2-2. PCS CDMA BAND

Max Peak output Power at antenna input terminal (dBm)	26.00
Max Peak output Power at antenna input terminal (mW)	398.107
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1880.00000
Antenna Gain(typical) (dBi)	-0.30000
Antenna Gain(numeric)	0.93325
Power density at prediction frequency (mW/cm²)	0.073915
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

2-3. LTE _BAND 2

Max Peak output Power at antenna input terminal (dBm)	26.20
Max Peak output Power at antenna input terminal (mW)	416.869
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1855.00000
Antenna Gain(typical) (dBi)	-0.30000
Antenna Gain(numeric)	0.93325
Power density at prediction frequency (mW/cm²)	0.077398
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

2-4. LTE _BAND 5

Max Peak output Power at antenna input terminal (dBm)	26.200
Max Peak output Power at antenna input terminal (mW)	416.869
Prediction distance (cm)	20.000
Prediction frequency (MHz)	826.500
Antenna Gain(typical) (dBi)	-2.400
Antenna Gain(numeric)	0.575
Power density at prediction frequency (mW/cm²)	0.04772
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.551

2-5. LTE _ BAND 4

Max Peak output Power at antenna input terminal (dBm)	26.20
Max Peak output Power at antenna input terminal (mW)	416.869
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1712.50000
Antenna Gain(typical) (dBi)	-1.60000
Antenna Gain(numeric)	0.69183
Power density at prediction frequency (mW/cm²)	0.057376
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

2-6. LTE _ BAND 17

Max Peak output Power at antenna input terminal (dBm)	26.200
Max Peak output Power at antenna input terminal (mW)	416.869
Prediction distance (cm)	20.000
Prediction frequency (MHz)	710.000
Antenna Gain(typical) (dBi)	-0.300
Antenna Gain(numeric)	0.933
Power density at prediction frequency (mW/cm²)	0.07740
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.473

2-7. LTE _ BAND 13

Max Peak output Power at antenna input terminal (dBm)	26.200
Max Peak output Power at antenna input terminal (mW)	416.869
Prediction distance (cm)	20.000
Prediction frequency (MHz)	782.000
Antenna Gain(typical) (dBi)	-1.500
Antenna Gain(numeric)	0.708
Power density at prediction frequency (mW/cm²)	0.05871
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.521

2-8. GSM 850 BAND

Max Peak output Power at antenna input terminal (dBm)	34.000
Max Peak output Power at antenna input terminal (mW)	2511.886
Prediction distance (cm)	20.000
Prediction frequency (MHz)	824.200
Antenna Gain(typical) (dBi)	-2.400
Antenna Gain(numeric)	0.575
Power density at prediction frequency (mW/cm²)	0.28756
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.549

2-9. GSM 1900 BAND

Max Peak output Power at antenna input terminal (dBm)	32.00
Max Peak output Power at antenna input terminal (mW)	1584.893
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1909.80000
Antenna Gain(typical) (dBi)	-0.30000
Antenna Gain(numeric)	0.93325
Power density at prediction frequency (mW/cm²)	0.294259
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

2-10. WCDMA 850 BAND

Max Peak output Power at antenna input terminal (dBm)	25.000
Max Peak output Power at antenna input terminal (mW)	316.228
Prediction distance (cm)	20.000
Prediction frequency (MHz)	836.600
Antenna Gain(typical) (dBi)	-2.400
Antenna Gain(numeric)	0.575
Power density at prediction frequency (mW/cm²)	0.03620
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	0.558

2-11. WCDMA 1900 BAND

Max Peak output Power at antenna input terminal (dBm)	25.00
Max Peak output Power at antenna input terminal (mW)	316.228
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1880.00000
Antenna Gain(typical) (dBi)	-0.30000
Antenna Gain(numeric)	0.93325
Power density at prediction frequency (mW/cm²)	0.058712
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

2-12. WCDMA 1700 BAND

Max Peak output Power at antenna input terminal (dBm)	25.00
Max Peak output Power at antenna input terminal (mW)	316.228
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1712.40000
Antenna Gain(typical) (dBi)	-1.60000
Antenna Gain(numeric)	0.69183
Power density at prediction frequency (mW/cm²)	0.043524
MPE limit for uncontrolled exposure at prediction frequency (mW/cm²)	1.00000

3. RESULTS

1) The power density level at 20 cm is **0.04558 mW/cm²**, which is below the controlled exposure limit of **0.550 mW/cm²** at **CDMA band.**

2) The power density level at 20 cm is **0.073915 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **PCS CDMA band.**

3) The power density level at 20 cm is **0.077398 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **LTE band 2.**

4) The power density level at 20 cm is **0.04772 mW/cm²**, which is below the controlled exposure limit of **0.551 mW/cm²** at **LTE band 5.**

5) The power density level at 20 cm is **0.057376 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **LTE band 4**

6) The power density level at 20 cm is **0.07740 mW/cm²**, which is below the controlled exposure limit of **0.473 mW/cm²** at **LTE band 17.**

7) The power density level at 20 cm is **0.05871 mW/cm²**, which is below the controlled exposure limit of **0.521 mW/cm²** at **LTE band 13.**

8) The power density level at 20 cm is **0.28756 mW/cm²**, which is below the controlled exposure limit of **0.549 mW/cm²** at **GSM 850 BAND**

9) The power density level at 20 cm is **0.294259 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **GSM 1900 BAND**

10) The power density level at 20 cm is **0.03620 mW/cm²**, which is below the controlled exposure limit of **0.558 mW/cm²** at **WCDMA 800 BAND**

11) The power density level at 20 cm is **0.058712 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **WCDMA 1900 BAND**

12) The power density level at 20 cm is **0.043524 mW/cm²**, which is below the controlled exposure limit of **1.0 mW/cm²** at **WCDMA 1900 BAND**