

3.6 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 Limit (DownLink)

Max Peak output Power at antenna input terminal	20.040	dBm
Max Peak output Power at antenna input terminal	100.925	mW
Prediction distance	25.000	cm
Prediction frequency	731.000	MHz
Antenna Gain(typical)	12.000	dBi
Antenna Gain(numeric)	15.849	-
Power density at prediction frequency(S)	0.20366	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	0.487	mW/cm ²

2-2 Limit (UpLink)

Max Peak output Power at antenna input terminal	19.990	dBm
Max Peak output Power at antenna input terminal	99.770	mW
Prediction distance	25.000	cm
Prediction frequency	701.000	MHz
Antenna Gain(typical)	12.000	dBi
Antenna Gain(numeric)	15.849	-
Power density at prediction frequency(S)	0.20133	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	0.467	mW/cm ²

3. RESULTS

The power density level at 25 cm is 0.20366 mW/cm², which is below the uncontrolled exposure limit of 0.487 mW/cm² at 731 MHz

The power density level at 25 cm is 0.20133 mW/cm², which is below the uncontrolled exposure limit of 0.467 mW/cm² at 701 MHz

Simultaneous MPE at 25 Cm is $(0.20366/0.487) + (0.20133/0.467) = 0.849307 < 1$