

11. 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	29.99000	dBm
Max Peak output Power at antenna input terminal	0.99770	W
Prediction distance	60.00000	cm
Prediction frequency	2683.50000	MHz
Antenna Gain(typical)	3.00000	dBi
Antenna Gain(numeric)	1.99526	—
Power density at prediction frequency (S)	0.04400	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.00000	mW/cm ²

2-2 Limit (UpLink)

Max Peak output Power at antenna input terminal	30.07000	dBm
Max Peak output Power at antenna input terminal	1.01625	W
Prediction distance	60.00000	cm
Prediction frequency	2640.50000	MHz
Antenna Gain(typical)	3.00000	dBi
Antenna Gain(numeric)	1.99526	—
Power density at prediction frequency (S)	0.04482	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.00000	mW/cm ²

3. RESULTS

The power density level at 60 cm is 0.044 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at 2683.5 MHz

The power density level at 60 cm is 0.044822 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at 2640.5 MHz

Simultaneous MPE at 60 cm is $(0.044/1.0) + (0.044822/1) = 0.0890 < 1$

Warning: In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, it must also have a minimum distance of 60 cm from the body during normal operation.