

10. 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. WiMax Downlink

Max Peak output Power at antenna input terminal	29.90000	dBm
Max Peak output Power at antenna input terminal	977.23722	mW
Prediction distance	40.00000	cm
Prediction frequency	2508.50000	MHz
Antenna Gain(typical)	12.00000	dBi
Antenna Gain(numeric)	15.84893	—
Power density at prediction frequency (S)	0.77032	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.00000	mW/cm ²

2-2. WiMax Uplink

Max Peak output Power at antenna input terminal	30.04000	dBm
Max Peak output Power at antenna input terminal	1009.25289	mW
Prediction distance	40.00000	cm
Prediction frequency	2508.50000	MHz
Antenna Gain(typical)	12.00000	dBi
Antenna Gain(numeric)	15.84893	—
Power density at prediction frequency (S)	0.79555	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.00000	mW/cm ²

3. RESULTS

The power density level at 40 cm is 0.79555 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at 2640.5 MHz for BRS band.

Warning: In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, it must also have a minimum distance of 40 cm from the body during normal operation.