Maximum Permissible Exposure (MPE) & Exposure evaluation

FCC ID: 2AT37STYLITE500

Applied procedures / limit

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

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

Where: 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

π = 3.1416

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure"

Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $|E|^2$,$|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

* = Plane-wave equivalent power density

MPE PREDICTION

Technologies:	Maximum Power (dBm)
BGAN Class 2 Mobile User Equipment I	23.66

Prediction: minimum safety distance

Max Output Power (dBm)	Antenna Gain(dBi)	Limit (mW/cm^2)	Minimum safety distance during operation / cm
23.66	11	1.0	80

Target power W/ tolerance (dBm)	Max tune up power tolerance (dBm)	Output power to antenna (mW)	Antenna Gain(dBi)	Power Density at R=80cm (mW/cm^2)	Limit (mW/cm^2)	Result
23.66	24	251.19	11 (12.59)	0.03932	1.0	Pass