

MAXIMUM PERMISSIBLE EXPOSURE (MPE) COMPUTATION

FCC Part 1.1310 Maximum Permissible Exposure (MPE) Limits

The EUT show compliance to the requirements of this section, which states the MPE limits for general population/ uncontrolled exposure are as shown below:

Table 1-- Limits for General Population/Uncontrolled Exposure

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

Note 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

FCC Part 1.1310 Maximum Permissible Exposure (MPE) Computation Procedures

1. The power density of the EUT antenna, P was computed based on the following formula:
 $d = \sqrt{[(30PG)/377S]}$
 where P = Power in W
 S = Power density, W/m²
 d = Test distance, m
 G = Numerical isotropic gain
2. The distance, d was computed. The distance d is the minimum distance between the EUT antenna and user that must be maintained to ensure compliance of this requirement.

FCC Part 1.1310 Maximum Permissible Exposure (MPE) Computation Method

$$\begin{aligned}P &= 0.0447W \\S &= 10 \text{ W/m}^2 \text{ (limit)} \\G &= 1 \text{ (0dBi)} \\d &= \sqrt{[30PG/377S]} \\&= 18.86\text{mm}\end{aligned}$$

Therefore: The distance between the EUT antenna and users shall be maintained at least 1.88cm to ensure a safe RF exposure when using the EUT.