

Prediction of MPE limit at a given distance



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

$$S = \frac{PG}{4\pi R^2}$$

where:

S = power density

P = power input to the 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

65.94 dBuV/m From test report's measured radiated power.

3 m

$$2.0E-03 \text{ V} = 10^{((65.94-120)/120)}$$

$$1.1682E-06 \text{ W} = ((\text{V} \times \text{3m})/5.5)^2$$

Maximum peak output power --Radiated: 0.000001 (W)

Prediction distance: 20.00 (cm)

Prediction frequency: 13.6 (MHz)

Limit from table below: 0.979 (mW/cm²)

Power density at prediction frequency: 0.0000002 (mW/cm²)

EUT complies

FCC/LSGAC Local Official's Guide to RF

A LOCAL GOVERNMENT OFFICIAL'S GUIDE TO TRANSMITTING ANTENNA RF
EMISSION SAFETY: RULES, PROCEDURES, AND PRACTICAL GUIDANCE

(B) 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 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: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: 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 cannot exercise control over their exposure.