

Evaluation 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

	22H
Output power:	23.98 (dBm)
Output power:	<u>0.250</u> (W)
Antenna gain:	<u>9.90</u> (dBi)
Maximum antenna gain:	<u>9.77</u> (numeric)
Evaluation distance:	<u>20.00</u> (cm)
Duty Cycle:	<u>100</u> (%)
Evaluation frequency:	<u>848.31</u> (MHz)
Limit from table below:	<u>0.566</u> (mW/cm ²)

Power density:	0.486 (mW/cm ²)
MARGIN:	0.657 (dB)

2.1091	EIRP:	33.88 (dBm)
	ERP:	31.73 (dBm)
	ERP:	1.49 (W)
	ERP LIMIT:	1.5 (W)
	MARGIN:	0.03 (dB)

22.913	ERP LIMIT:	7.0 (W)
	ERP:	1.49 (W)
	MARGIN:	6.72 (dB)

	24E
Output power:	23.75 (dBm)
Output power:	<u>0.237</u> (W)
Antenna gain:	<u>9.20</u> (dBi)
Maximum antenna gain:	<u>8.32</u> (numeric)
Evaluation distance:	<u>20.00</u> (cm)
Duty Cycle:	<u>100</u> (%)
Evaluation frequency:	<u>1880.00</u> (MHz)
Limit from table below:	<u>1.000</u> (mW/cm ²)

Power density:	0.392 (mW/cm ²)
MARGIN:	4.063 (dB)

2.1091	EIRP:	32.95 (dBm)
	ERP:	30.8 (dBm)
	ERP:	1.20 (W)
	ERP LIMIT:	3 (W)
	MARGIN:	3.97 (dB)

24.232	EIRP LIMIT:	2.0 (W)
	EIRP:	1.97 (W)
	MARGIN:	0.06 (dB)

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.