

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

Maximum peak output power --Conducted	-1.33 dBm
	<u>0.001</u> (W)
Antenna gain(typical):	<u>4.00</u> (dBi)
Maximum antenna gain:	<u>2.51</u> (numeric)
Evaluation distance:	<u>20.00</u> (cm)
Evaluation frequency:	<u>2404.80</u> (MHz)
Limit from table below:	<u>1</u> (mW/cm ²)

Power density at Evaluation frequency: **0.00037** (mW/cm²)

EUT complies

The evaluations below are for the RF modules co-located within this product. As they work at different frequencies, they would not add together to create an exposure greater than the sum of their parts.

Cellular VV7-MBMF5521GW1
Name of Grantee: Ericsson AB
Maximum peak output power --Conducted 32.4797 dBm
Antenna gain(typical): 1.770 (W)
Maximum antenna gain: 2.15 (dBi)
Evaluation distance: 20.00 (cm) (20.51 cm complies)
Evaluation frequency: 824.20 (MHz)
Limit from table below: 0.54947 (mW/cm²)

Power density at Evaluation frequency: **0.57770** (mW/cm²)

WiFi PD962205ANH
Name of Grantee: Intel Corporation
Maximum peak output power --Conducted 15.31 dBm
Antenna gain(typical): 0.034 (W)
Maximum antenna gain: 4.00 (dBi)
Evaluation distance: 20.00 (cm)
Evaluation frequency: 5510-5670 (MHz)
Limit from table below: 1 (mW/cm²)

Power density at Evaluation frequency: **0.01699** (mW/cm²)

0.00037
+ 0.01699
+ 0.57770
0.59506 Is less than 1 mW/cm²

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.