

16. RF Exposure

16.1 Standard Applicable

According to §15.407(f) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

16.2 Measurement Result:

MPE Prediction

Prediction of MPE limit at a given distance

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

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

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

Maximum peak output power at antenna input terminal: 14.07(dBm)

Maximum peak output power at antenna input terminal: 25.52 (mW)

Antenna gain (typical): 0.32 (dBi)

Maximum antenna gain: 1.07 (numeric)

Prediction distance: 20 (cm)

Prediction frequency: 5180 (MHz)

MPE limit for uncontrolled exposure at prediction frequency:

1 (mW/cm²)

Power density at predication frequency at 20 (cm) distance

0.005469535 mW/cm²

S	P	P	G	G	R
mW/cm ²	mW	dBm	dBi	(numeric)	cm
0.005469535	25.52701303	14.07	0.32	1.076465	20

12.1 Measurement Result

The predicted power density level at 20 cm is 0.005469535 mW/cm². This is below the uncontrolled exposure limit of 1 mW/cm² at 5180MHz.