4   § 15.247 (e) (i) and § 2.1091 - RF EXPOSURE

4.1   Applicable Standard

According to §15.247(e)(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

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 (minute)
Limits for General Population/Uncontrolled Exposure				
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

4.2   MPE Prediction (Sector Panel Antenna, model: RWA-80017)

Prediction of MPE limit at a given distance

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

$S = PG/4\pi R^2$

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 (dBm):	25.20
Maximum peak output power at antenna input terminal (mW):	331.0
Prediction distance (cm):	60
Prediction frequency (MHz):	912
Maximum Antenna Gain, typical (dBi):	19.15
Maximum Antenna Gain (numeric):	82.22
Power density of prediction frequency at 60.0 cm (mW/cm^2):	0.602
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.608

4.3   Test Result

The EUT is a base device. The power density level at 60 cm is 0.602 mW/cm², which is below the uncontrolled exposure limit of 0.608 mW/cm² at 912 MHz.