RF Exposure - Power Density Compliance Calculation

15.247(I) - 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 levels in excess of the Commission's guidelines.

Compliance is based upon section CFR 47 section 1.1310, Table (1) Limits for Maximum Permissible Exposure (MPE), (b) Limits for General Population/Uncontrolled Exposure. The stated limit is (1.0) mW/cm2 and compliance was calculated using the following formula:

$$S=(P\ G) / (4\ \pi\ r^2)$$

Where:

S = Power density in mW/cm2
P = Power in mW
G = Numerical antenna gain
r = Distance in cm

Maximum output power = (66.1) mW
Antenna gain (isotropic) = 2.14 dB
Antenna gain (numeric) = 1.64 dB
Distance = 20 cm

S = (66.1 * 1.64) / (12.57 * 400)
S= (70.03) / (5,028)

S= (0.0216) mW / cm^2

Limit = (1.0) mW / cm^2