MPE Calculations

R33LSZ1011

1.0 SCOPE:

This Report Demonstrates Evaluation and Compliance for Human Exposure to Radiofrequency Electromagnetic Fields as Outlined by the Federal Communications Commission Office of Engineering and Technology Bulletin 65.

2.0 REVISION LEVEL:

DATE	COMMENTS	REVISION
10/25/2004	Created.	1.0

3.0 REFERANCE DOCUMENTS:

(A) Limits for Maximum Permissible Exposure (MPE). Code of Federal Regulations Title 47, Volume 1, Section 1.1310.
(B) Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. OET Bulletin 67 Edition 97-01.

4.0 CALCULATIONS:

The following worst case emissions are based on a PPt (Peak Power Total) measurement of 10.4 dBm. And the worst case antenna gain on axis is found to be 3.64 dBi.

Total radiated power at the Transmitter:

A) Pt = 10.4 dBm + 3.64 dBi = 14.4 EIRP

14.04 EIRP = 25.35 mW or .02535 Watts.

Power density at a distance of .02 meters is:

B) $S = EIRP/4\pi \cdot R^2$

S = Power density (mW/cm^2)
EIRP = Equivalent isotropically radiated power (mW)
R = Distance to the center of radiation of the antenna (cm)

S = 100.869 mW per meter squared.

Power density based on a Per Centimeter Squared is:

10.08 µW per centimeter squared.

5.0 CONCLUSION:

Based on the FCC Limits for Maximum Permissible Exposure (MPE) given in Table 1 of reference document (A) this device falls under the required limits.