MPE Calculations

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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
7/18/2006	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 9.3 dBm. And the worst case antenna gain on axis is found to be 2.83 dBi.

Total radiated power at the Transmitter:

A) Pt = 9.3 dBm + 2.83 dBi = -17.875 dBW EIRP

-17.875 EIRP = 10 mW or .010 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)

Power density based on a Per Centimeter Squared is:

S = .3355 mW 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.