MPE Calculations

R33AVXRAA11

1.0 SCOPE:

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

2.0 REVISION LEVEL:

DATE	COMMENTS	REVISION
4/25/2005	Created.	1.0

3.0 REFERANCE DOCUMENTS:

(A) Limits for Maximum Permissible Exposure (MPE). Code of Federal Regulations Title 47, Volume 1, Sections 1.1310
(B) Limits for Maximum Permissible Exposure (MPE). Code of Federal Regulations Title 47, Volume 1, Sections 2.1093
(C) 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 9.10 dBm into the antenna. And the worst case antenna gain on axis is found to be 0.0 dBi.

Total power into antenna:

A) Pt = 9.10 dBm = 10^(9.10 dBm/10) = 8.12 mW

Total effective isotropic radiated power at the Transmitter:

B) EIRP = 9.10 dBm + 0.0dBi = 9.10 dBm

10.4 dBm = 8.12 mW

Power density at a distance of 20 centimeters is:

C) $$S = \frac{EIRP}{4\pi R^2} = 1.6\ \mu W/cm^2$$

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

5.0 CONCLUSION:

Based on the FCC Limits for Maximum Permissible Exposure (MPE) given in Table 1 of reference document (A) as 1 mW/cm^2 this device falls under the required limits.