MPE Calculations

IX-58BTINF

FCC ID: BD6BTINF

1 Scope

This report demonstrates evaluation and compliance for human exposure to electromagnetic fields as outlined by the Federal Communications Commission of Engineering and Technology Bulletin 65.

2 Revision Level

DATE	COMMENTS	REVISION
5/1/08	Created	1.0

3 Reference Documents

(A) Limits for Maximum Permissible Exposure (MPE). Code of Federal Regulations Title 47, Volume 1, Section 1.1310

(B) Limits for Maximum Permissible Exposure (MPE). Code of Federal Regulations Title 47, Volume 1, Section 2.1093

(C) Evaluation Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. OET Bulletin 67 Edition 97-01

4 Calculations

The following worst case emissions are based on a PPt (Peak Power Total) measurement of 2 dBm into the antenna. And the worst case antenna gain on axis is found to be -3.15 dBi.

The total power into antenna:

A) $Pt = 2\ dBm = 10^{(2\ dBm/10)} = 1.58\ mW$

Total effective isotropic radiated power at the transmitter:

B) $EIRP = 2\ dBm - 3.15\ dBi = -1.15\ dBm$

$-1.15\ dBm = 0.77\ mW$

Power density at a distance of 20 centimeters is:

C) $S = EIRP / 4\pi R^2 = 0.15\ \mu W/cm^2$

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 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.