RF Exposure Analysis

FCC ID: A5FEIA200MRF

Analysis for FCC mobile use

The FCC requires that the calculated MPE be equal to or less than a given limit dependent on frequency at a distance of 20 cm from a device to the body of a user.

The following equation applies:

$$S = EIRP/4 \pi R^2$$

Where: S = Power density

EIRP = Effective Isotropic Radiated Power (EIRP = P x G)

P = Conducted Transmitter Power

G = Antenna Gain (relative to an isotropic radiator)

R = distance to the centre of radiation of the antenna (safe operating distance)

Power Density Requirement

From FCC Rule Part 1.1310 Table 1 - Limits for General Population/ Uncontrolled Exposure, $S=f/1500$ mW/cm^2 for 300 to 1500MHz.

$S = 0.62$ mW/cm^2 for the EiA200MRF module operating at 926.365MHz

RF Exposure Analysis

P = - 2.2dBm (0.6mW)
G = 0dBi max = x 1
EIRP = P x G = 0.6mW

$S = EIRP /4 \pi R^2$

$S = 0.6/(12.56 \times 20^2)$

$S = 0.6/(5024)$

$S = 1.2 \times 10^{-4}$ mW/cm^2

Conclusion

This demonstrates the EiA200MRF module meets the requirement of $S = 0.62$ mW/cm^2 for >20cm module usag

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Ei Electronics
Shannon,
Co.Clare,
IRELAND

Tel: +353 (0)61 471 277
Fax: +353 (0)61 471 053
e-mail: admin@eielectronics.ie
web: eielectronics.com