

RF Exposure Analysis

FCC ID: A5FEIA600MRF

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:

$$S = \text{EIRP} / 4 \pi R^2$$

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, $S = f/1500 \text{ mW/cm}^2$ for 300 to 1500MHz.

S = 0.62 mW/cm² for the EiA600MRF module operating at 926.365MHz

RF Exposure Analysis

P = - 2.05dBm (0.62mW)

G = 0dBi max = x 1

EIRP = P x G = 0.62mW

$S = \text{EIRP} / 4 \pi R^2$

$S = 0.62 / (12.56 \times 20^2)$

$S = 0.62 / (5024)$

S = 1.2 x 10⁻⁴ mW/cm²

Conclusion

This demonstrates the EiA600MRF module meets the requirement of $S = 0.62 \text{ mW/cm}^2$ for >20cm module usage

Signature:



Date:

05/07/2020

