

## 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

$\text{EIRP}$  = Effective Isotropic Radiated Power ( $\text{EIRP} = P \times G$ )

$P$  = 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.

**$S = 0.62 \text{ mW/cm}^2$**  for the EiA600MRF module operating at 926.365MHz

### RF Exposure Analysis

$P = -2.05 \text{ dBm} (0.62 \text{ mW})$

$G = 0 \text{ dBi max} = x 1$

$\text{EIRP} = P \times G = 0.62 \text{ mW}$

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

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

$S = 0.62 / (5024)$

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

### Conclusion

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

Signature:



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