

RF Exposure evaluation

The LMR400 is a wireless device used in a mobile application, at least 20 cm from any body part of the user or nearby persons.

The maximum calculated EIRP is 2.24 W, and ERP is 1.38 W.

As declared by the Applicant, the EUT transmits with the maximum source-based Duty Cycle of 50% - see the document "LMR400 Duty Cycle evaluation". Therefore, the average EIRP is 1.12 W

Using the formula for the Power Density $S = \text{EIRP} / 4\pi D^2$, the distance D, where the Maximum Permissible Exposure (MPE) satisfies the FCC 1.1310 limit for General Population/Uncontrolled Exposure, can be calculated as:

$$D \geq \sqrt{(\text{EIRP} / 4\pi S)}$$

According to FCC 1.1310, the MPE Limit at 406 MHz is 2.7 W/m², therefore $D \geq 0.18$ m.

The Statement that a minimum separation distance of 20 cm between the antenna and persons must be maintained is included in the User's manual.

Note, that since the ERP is less than 1.5 W, the device is excluded from routine environmental evaluation for RF exposure, according to FCC 2.1091.