

Action Item #3 regarding Grant approval:

“Submit the page of the User’s Manual with the RF exposure warning and required user separation distance from the antenna of 20 cm.”

Rather than change the user manual, the device is shown to meet the requirements of 47CFR2.1093, at maximum duty cycle.

The maximum duty cycle of the device is 0.42%, which consists of the temperature and device identification data sent at the maximum update rate. 36 packets are used to transmit these messages.

The time-averaged RF transmit power is then,

$$50mW \times \frac{36 \text{ packets}}{3 \text{ min}} \times \frac{21ms}{\text{packet}} \times \frac{1 \text{ min}}{60 \times 10^3 \text{ ms}} = 0.21mW$$

Worst case, if all of the transmitted power were absorbed in a 1-gram sample of tissue, the power density is 0.21 mW/gram and is well below the 1.6 mW/gram limit found in 47CFR2.1093.

The maximum duty cycle of the device is

$$\frac{36 \text{ packets}}{3 \text{ min}} \times \frac{21ms}{\text{packet}} \times \frac{1 \text{ min}}{60 \times 10^3 \text{ ms}} = 0.0042 = 0.42\%$$