Average Power P [W]   Antenna Gain G   Wave length [m] for frequency f [MHz]

$P := 10$ $G := 2$ $f := 118$ $\lambda := \frac{3 \cdot 10^8}{f \cdot 10^6}$ $\lambda = 2.542$

Maximum dimension of antenna D [m]   Transition region Rnf [m]

$D := 1$ $Rnf := \frac{D^2}{4 \cdot \lambda}$ $Rnf = 0.098$

Far field (Fraunhofer) distance, > Rf [m]

$Rf := 2 \cdot \frac{D^2}{\lambda}$ $Rf = 0.787$

Power density, So [W/m2] at Rf distance

$So := \frac{P \cdot G}{4 \cdot \pi \cdot Rf^2}$ $So = 2.572$

Declared distance r=0.5 [m]

$r := 0.5$ $k := \frac{Rf}{r}$ $k = 1.573$

The power density in the transition region (between Rf and Rnf) is assumed as proportional to the distance from the antenna, so the field Sa in the declared distance is calculated as:

$Sa := k \cdot So$ $Sa = 4.046 \left[\frac{W}{m^2}\right]$

For duty cycle kd=1/4 and max transmitting time of about 30s, the limiting power density S=kd*Sa

$kd := \frac{1}{4}$ $S := kd \cdot Sa$ $S = 1.012 \left[\frac{W}{m^2}\right]$

FCC MPE Limits for General Population/Uncontrolled Exposure and frequency range 30-300 [MHz]

$MPE := 2 \left[\frac{W}{m^2}\right]$

As a result, the declared field exposure is below the required limit.

$S < MPE$

The second method uses the approximations of near field presented in [3].

For half wave dipol and monopol antennas, according to equations (4-13,14,15) and Figure 4.22, the normalized correction factors for electric (ke) and magnetic (km) fields, normalized to 1.5 wavelength, are approximated as:

$R := 1.5 \cdot \lambda \qquad \frac{r}{R} = 0.131$

$ke := 13 \qquad km := 10$

$$Sn := \frac{P \cdot G}{4 \cdot \pi \cdot R^2} \cdot kd$$

Electric and magnetic fields for Sn plain wave are calculated as

$En := \sqrt{377 \cdot Sn} \qquad En = 3.212 \ \left[\frac{V}{m}\right]$

$Hn := \frac{En}{377} \qquad Hn = 0.009 \ \left[\frac{A}{m}\right]$

After near field correction

$E := ke \cdot En \qquad H := km \cdot Hn$

$E = 41.751 \ \left[\frac{V}{m}\right] \qquad H = 0.085 \ \left[\frac{A}{m}\right]$

The maximum electric and magnetic fields exposure limits, in accordance with OET Bulletin 65 of FCC limit 10 [W/m2] are specified as:

$Emax := 61.4 \ \left[\frac{V}{m}\right] \qquad Hmax := 0.163 \ \left[\frac{A}{m}\right]$

Also in this case, the declared field exposure is below the required limit.

$E < Emax \qquad H < Hmax$

References:
[1] Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65, Edition 97-01

[2] https://www.mwrf.com/markets/industrial/article/21848689/determining-the-safe-distance-from-a-reflector-antenna

[3] A. Farrar and E. Chang, Procedures for Calculating Field Intensities of Antennas, 1987