

FCC ID:2ADAJWH51RF

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density(mW/cm ²) | Average Time |
|--|------------------------------|------------------------------|------------------------------------|--------------|
| (A) Limits for Occupational/Control Exposures | | | | |
| 300-1500 | -- | -- | F/300 | 6 |
| 1500-100000 | -- | -- | 5 | 6 |
| (B) Limits for General Population/Uncontrol Exposures | | | | |
| 300-1500 | -- | -- | F/1500 | 6 |
| 1500-100000 | -- | -- | 1 | 30 |

$$11.1 \text{ Friis transmission formula: } P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$$

Where

Pd= Power density in mW/cm²

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1416

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

mW=10^(dBm/10)

11.2 Measurement Result

Operation Frequency: 915MHz
Antenna Type: Spring Antenna
Antenna gain: -2.1dBi,
R=20cm
mW=10^(dBm/10)

Transmit power

| Frequency (MHz) | EIRP power (dBuV/m) | EIRP power (dBm) | EIRP power (mW) |
|--------------------|------------------------|---------------------|--------------------|
| 915 | 92.84 | -2.42 | 0.5728 |

$$\text{EIRP} = E - 104.8 + 20\log(D)$$

Maximum Permissible Exposure:

| Channel Freq. (MHz) | modulation | EIRP power (dBm) | EIRP power (mW) | Tune-up power (dBm) | Max tune-up power (dBm) | Evaluation result (mW/cm ²) | Power density Limits (mW/cm ²) |
|---------------------------|------------|------------------------|-----------------------|---------------------------|----------------------------------|---|--|
| 915 | FSK | -2.42 | 0.5728 | -2±1 | -1 | 0.000158 | 0.61 |

Conclusion:

For the max result : $0.000158 \leq 0.61$ for 1g SAR, No SAR is required.



Signature:

Date: 2024-05-06

NAME AND TITLE (Please print or type): Alex Li/Manager

COMPANY (Please print or type): Shenzhen NTEK Testing Technology Co., Ltd./ 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen P.R. China.