

FCC ID: WA5WN20

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) § 2.1091(b)

KDB447498 D01 General RF Exposure Guidance v06
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 Friis transmission formula: $P_d = \frac{P_{out} \cdot G}{4 \cdot \pi \cdot R^2}$

Where

P_d = Power density in mW/cm²

P_{out} =output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π =3.1416

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

P_d 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	91.4	-3.86	0.41

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

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/cm2)	Power density Limits (mW/cm2)
915	FSK	-3.86	0.41	-3±1	-2	0.000077	0.61

Conclusion:

For the max result : $0.000077 \leq 0.61$ for 1g SAR, No SAR is required.



Signature:

Date: 2025-12-05

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

COMPANY (Please print or type): Shenzhen NTEK Testing Technology Co., Ltd./ No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.