

## FCC RF Exposure Report

FCC ID: 2AHQM-3208WRFS

Report Reference No. .... : 16FAB01005 71

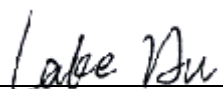
Date of issue ..... : 2016-04-25

Testing Laboratory..... : ATT Product Service Co., Ltd.  
Address ..... : No. 3, ChangLianShan Industrial Park, ChangAn Town,  
DongGuan City, GuangDong, China.

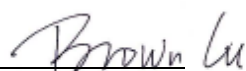
Applicant's name..... : K-Rain Manufacturing Corporation.  
Address ..... : 1640 Australian Ave., Riviera Beach, FL, Zip Code: 33404, USA.

Test item description ..... : Wireless Rain-Freeza Sensor  
Model/Type reference ..... : 3208-WRFS  
Ratings ..... : I/P: 3.6Vdc  
Standards ..... : FCC Part 2 (Section 2.1091)  
KDB 447498 D03

Tested by

  
(Lake Hu / Engineer)

Approved by

  
(Brown Lu / EMC Manager)

## 1. RF Exposure

### 1.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz \*Plane-wave equivalent power density

### 1.2 MPE Calculation Formula

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

## 2. Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So this device is classified as **Mobile Device**.

## 3. Calculation Test Result

### 3.1 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

Frequency Band (MHz)	Antenna Type	Connector	Gain(dBi)
433	External antenna	Soldering on the PCB board	2

### 3.2 Calculation Result for Single antenna transmissions

Operation Frequency (MHz)	Target Power (dBm)	Max. Target Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
433MHz	-7±1	-6	2	20	0.00008	0.289

#### 4. Conclusion

Therefore the maximum calculations of above situations are less than the Power Density limit.