Maximum Permissible Exposure Evaluation
FCC ID:2A58T-WP71

1. Client Information

Applicant	:	heyuanshiruizhichuangxinzhinengkejiyouxiangongsi
Address	:	Cdong201, hudielinggongyeyuan, heyuanshidongyuanxian, guangdongsheng, China 517000
Manufacturer	:	heyuanshiruizhichuangxinzhinengkejiyouxiangongsi
Address	:	Cdong201, hudielinggongyeyuan, heyuanshidongyuanxian, guangdongsheng, China 517000

2. General Description of EUT

EUT Name	:	Water Leak Detector	
Models No.	:	WP71, WP71+WD61+RC532, WP71+WD61X2+RC532, WP71+WD61X3+RC532, WP71+WD61X5+RC532, WD61X1, WD61X3, WP71+WD61X2	
Model Difference	:	All PCB boards and circuit diagrams are the same, the only difference is Appearance of the color.	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels
		RF Output Power:	802.11b: 16.339dBm 802.11g: 18.591dBm 802.11n (HT20): 18.483dBm
		Antenna Gain:	0dBi Spring Antenna
Power Rating	:	Input: DC 5V DC 1.5V by AAA battery*3	
Software Version	:	----	
Hardware Version	:	KR-WP71-V1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

MPE Calculations for WIFI

1. **Antenna Gain:**
   PCB Antenna:0dBi.

2. **EUT Operation Condition:**
   Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. **Exposure Evaluation:**
   Equation from page 18 of OET Bulletin 65, Edition 97-01
   $S=(PG)/4\pi R^2$
   Where
   S: power density
   P: power input to the antenna
   G: power gain of the antenna in the direction of interest relative to an isotropic radiator.
   R: distance to the center of radiation of the antenna

4. **Test Result:**

Worst Maximum MPE Result								
Mode	N_{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]
802.11b	1	2412	15.208	15±1	16	0	20	0.0079
		2437	15.575	16±1	17	0	20	0.0100
		2462	16.339	16±1	17	0	20	0.0100
802.11g	1	2412	17.439	17±1	18	0	20	0.0126
		2437	17.911	18±1	19	0	20	0.0158
		2462	18.591	19±1	20	0	20	0.0199
802.11n(HT20)	1	2412	17.325	17±1	18	0	20	0.0126
		2437	17.832	18±1	19	0	20	0.0158
		2462	18.483	18±1	19	0	20	0.0158

Note:
(1) N_{TX}= Number of Transmit Antennas
(2) RF Output power specifies that Maximum Conducted Peak Output Power.

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm^2)
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm^2

The MPE is calculated as **0.0199 *mW / cm^2 < limit 1mW / cm^2***. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.

6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF REPORT-----