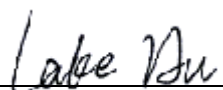


FCC RF Exposure Report

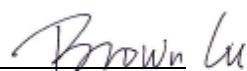
FCC ID: 2AHQM-3209

Report Reference No. : 16FAB01005 61
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 : Wifi Hub
Model/Type reference : 3209
Ratings : I/P: AC 100-240V 50-60Hz 0.5A
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 ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	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/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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	Reverse SMA	2
2450	Internal antenna	Soldering on the PCB board	1

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 ²)	Limit (mW/cm ²)
433MHz	-9±1	-8	2	20	0.00005	0.289
2450MHz	15±1	16	1	20	0.01	1

3.3 Calculation Result for Multi antenna transmissions

Condition	Power Density (mW/cm ²)	Limit (mW/cm ²)
433MHz+WiFi	0.01005	1

4. Conclusion

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