

## MRE report

Applicant: I-Rocks Technology Co., Ltd  
Product Description: Wireless Dongle  
Model No.: SF-C-8510  
FCC ID: UJ9-2604600

Frequency range: 2402MHz – 2480MHz

**According to FCC §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission’s guidelines.**

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equivalent power density

### MPE Calculation Method

The MPE was calculated at 20cm to show compliance with the power density limit. The following formula was used to calculate the Power Density:

$$E \left( \frac{V}{m} \right) = \frac{\sqrt{(30 * P * G)}}{d} \quad \text{Power Density: } Pd \left( \frac{W}{m^2} \right) = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 * P * G}{377 * d^2}$$

### Calculated Result and Limit

Maximum peak output power (dBm): 0.26

Maximum peak output power (mW): 1.062

Distance (cm): 20

Frequency (MHz): 2480

Antenna Gain (dBi): -21.64

Antenna Gain (numeric): 0.007

Power density of prediction frequency at 20 cm (mW/cm<sup>2</sup>): 0.0000015

MPE limit for uncontrolled exposure at prediction frequency (mW/cm<sup>2</sup>): 1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 20 cm is 0.0000015 mW/cm<sup>2</sup>, limit is 1.0 mW/cm<sup>2</sup>.