

Statement of compliance to Maximum Permissible Exposure (MPE)

Applicant : Ecovacs Robotics Co.,Ltd.
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Manufacturer : Ecovacs Robotics Co.,Ltd.
No.108 Shihu Road (West), Wuzhong Zone, Suzhou ,
China 215168

Product Name : wifi module

Type/Model : RAK310

According to §2.1091, §2.1093 and §1.1307(b), 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.

The $S = PG / (4\pi R^2)$

Where S = power density in mW/cm²

P = transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

R is chosen to be 20cm, the gain of antenna $G = 3.5\text{dBi} = 2.239$

As we can see from the test reports 13100486SHA-001:

The maximum output power = 19.55dBm = 90.157mW

$MPE = PG / (4\pi R^2) = 90.157 * 2.239 / (4 * 3.14 * 20 * 20) = 0.040\text{mW/cm}^2$ which is below the MPE limit (≤ 1.0) defined in §1.1310.

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Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.