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## RF Exposure Evaluation Declaration

Report No.: S202205270617E03

Report Version: V01

Issue Date: 10-25-2021

**Applicant:** ROIDMI Information Technology Co., Ltd.  
**Address:** Layer4, Building C8, NO.1699, Huishan Road Huishan  
Economic Development District Wuxi, China  
**FCC ID:** 2AR98-SDJ06  
**Application Type:** Certification  
**Product:** Self-Cleaning and Emptying Robot Vacuum  
**Model No.:** SDJ06RM,SDJ06RM\*(\*Could be 0-9 or A-Z,indicate for  
different color and accessories)  
**Trade Mark:**   
**FCC Classification:** Digital Transmission System (DTS)  
**FCC Rule Part(s):** Part 15 Subpart C (15.247)  
**Test Procedure(s):** ANSI C63.10-2013, KDB 558074 D01v05r02  
**Test Date:** Jun 14 ~ Jun 16, 2022

Compiled By

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Approved By

(Line Chen)  
Engineer Manager

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01. Test results reported herein relate only to the item(s) tested.

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The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

## Revision History

| Report No.       | Version | Description | Issue Date |
|------------------|---------|-------------|------------|
| S202205270617E03 | Rev. 01 | /           | XX-XX-2022 |
|                  |         |             |            |

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

|                      |                                                                                                                     |
|----------------------|---------------------------------------------------------------------------------------------------------------------|
| Product Name:        | Self-Cleaning and Emptying Robot Vacuum                                                                             |
| Model Name:          | SDJ06RM                                                                                                             |
| Additional Model:    | SDJ06RM*(*Could be 0-9 or A-Z, indicate for different color and accessories)                                        |
| Model Description:   | All models are electrically identical, only color and accessories are different.                                    |
| Trade Mark:          |                                    |
| Rated value :        | Rated Operating Voltage:14.4Vdc<br>Rated Power:48W<br>Battery Capacity:5200mAh<br>Rated Charging Voltage:24Vdc 1.2A |
| Wi-Fi Specification: | 802.11b/g/n-HT20                                                                                                    |

### 1.2. Product Specification Subjective to this Report

|                     |                                                                                     |
|---------------------|-------------------------------------------------------------------------------------|
| Frequency Range:    | 802.11b/g/n-HT20: 2412 ~ 2462MHz                                                    |
| Channel Number:     | 802.11b/g/n-HT20: 11                                                                |
| Type of Modulation: | 802.11b: DSSS<br>802.11g/n: OFDM                                                    |
| Data Rate:          | 802.11b: 1/2/5.5/11Mbps<br>802.11g: 6/9/12/18/24/36/48/54Mbps<br>802.11n: MCS0~MCS7 |
| Antenna Type:       | FPC Antenna                                                                         |
| Antenna Gain:       | 4.2dBi                                                                              |

## 2. RF Exposure Evaluation

### 2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency Range<br>(MHz)                                  | Electric Field<br>Strength (V/m) | Magnetic Field<br>Strength (A/m) | Power Density<br>(mW/cm <sup>2</sup> ) | Average Time<br>(Minutes) |
|-----------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------------|---------------------------|
| (A) Limits for Occupational/ Control Exposures            |                                  |                                  |                                        |                           |
| 300-1500                                                  | --                               | --                               | f/300                                  | 6                         |
| 1500-100,000                                              | --                               | --                               | 5                                      | 6                         |
| (B) Limits for General Population/ Uncontrolled Exposures |                                  |                                  |                                        |                           |
| 300-1500                                                  | --                               | --                               | f/1500                                 | 6                         |
| 1500-100,000                                              | --                               | --                               | 1                                      | 30                        |

f= Frequency in MHz

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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

|           |                                         |
|-----------|-----------------------------------------|
| Product   | Self-Cleaning and Emptying Robot Vacuum |
| Test Item | RF Exposure Evaluation                  |

| Test Mode                                                                                                                        | Frequency Band (MHz) | Maximum PK Output Power (dBm) | Power Density at R = 20 cm (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------|--------------------------------------------------|-----------------------------|
| 802.11b/g/n                                                                                                                      | 2412 ~ 2462          | 17.56                         | 0.0298                                           | 1                           |
| Note: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2) = 10^{21.76/10} / (4 \cdot 3.1416 \cdot 20^2) = 0.0298 \text{ mW/cm}^2$ |                      |                               |                                                  |                             |

### CONCULISON:

The Max Power Density at R (20 cm) =  $0.0298 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$ .

So, the EUT complies with the requirement.

\_\_\_\_\_ The End \_\_\_\_\_