

Fangguang Inspection & Testing Co., Ltd.

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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: [OIDMI

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

(Amos Xia)

Senior Test Engineer

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.

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Revision History

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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:	FOIDMI	
Rated value :	Rated Operating Voltage:14.4Vdc	
	Rated Power:48W	
	Battery Capacity:5200mAh	
	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	
	802.11g/n: OFDM	
Data Rate:	802.11b: 1/2/5.5/11Mbps	
	802.11g: 6/9/12/18/24/36/48/54Mbps	
	802.11n: MCS0~MCS7	
Antenna Type:	FPC Antenna	
Antenna Gain:	4.2dBi	

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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	Electric Field	Magnetic Field	Power Density	Average Time
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm ²)	(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: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm²

Pout = 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

Pd is the limit of MPE, 1mW/cm². 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	Maximum PK	Power Density at	Limit
	(MHz)	Output Power	R = 20 cm	(mW/cm ²)
		(dBm)	(mW/cm ²)	
802.11b/g/n	2412 ~ 2462	17.56	0.0298	1
Note: Pd = $(Pout*G)/(4*pi*r2) = 10^{21.76/10}/(4*3.1416*20^2) = 0.0298 \text{mW/cm}^2$				

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.

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