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:	ROIDMI
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

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:	ROIDMI
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

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 (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (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/cm^2

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 (MHz)	Maximum PK Output Power (dBm)	Power Density at R = 20 cm (mW/cm^2)	Limit (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)=0.0298mW/cm^2				

CONCULISON:

The Max Power Density at R (20 cm) = 0.0298mW/cm^2 < 1mW/cm^2.

So, the EUT complies with the requirement.

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