Ecovacs Home Service Robotics Co., Ltd.

MPE ASSESSMENT REPORT

Report Type:
FCC MPE assessment report

MODEL:
WG841-01

REPORT NUMBER:
2410B0917SHA-003

ISSUE DATE:
November 18, 2024

DOCUMENT CONTROL NUMBER:
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Total Quality. Assured.

TEST REPORT

Report no.: 2410B0917SHA-003

Applicant:	Ecovacs Home Service Robotics Co., Ltd. No.518 Songwei Road,Wusongjiang industry Park, Guoxiang Street, Wuzhong District, Suzhou, Jiangsu, China.
Manufacturer:	Ecovacs Home Service Robotics Co., Ltd. No.518 Songwei Road,Wusongjiang industry Park, Guoxiang Street, Wuzhong District, Suzhou, Jiangsu, China.
Factory 1:	Ecovacs Robotics Co., Ltd. No.518 Songwei Road, Wusongjiang industry Park, Guoxiang Street, Wuzhong District, Suzhou, Jiangsu, China
Factory 2:	Ecovacs Home Service Robotics Co., Ltd. No.518 Songwei Road, Wusongjiang industry Park, Guoxiang Street, Wuzhong District, Suzhou, Jiangsu, China.
FCC ID:	2A64B-WG841

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:
KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part1.1307(b)

PREPARED BY:	**REVIEWED BY:**
Project Engineer Sky Yang	Reviewer Wakeyou Wang

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TEST REPORT

Revision History

Report No.	Version	Description	Issued Date
2410B0917SHA-003	Rev. 01	Initial issue of report	November 18, 2024

TEST REPORT

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Window Cleaning Robot
Type/Model:	WG841-01
Description of EUT:	The EUT is a window cleaning robot with Bluetooth function.
Rating:	24VDC, 3.75A Adapter: GM95-240375-D Input: 100-240VAC, 50-60Hz, 2.5A Output: 24VDC, 3.75A, 90W
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	October 24, 2024
Date of test:	October 25, 2024~ November 6, 2024

1.2 Technical Specification

Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	Bluetooth LE 4.2
Type of Modulation:	GFSK
Channel Number:	40
Data Rate:	1Mbps
Channel Separation:	2MHz
Antenna Information:	-3.13dBi, PCB Antenna

1.3 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No.: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252)
	A2LA Accreditation Lab Certificate Number: 3309.02

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2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

According to§1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm2)	Averaging time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

F=frequency in MHz; *=Plane-wave equivalent power density

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

$S = PG / (4\pi R^2)$
Where S = power density in mW/cm^2
P = Power in mW
G = numeric gain of transmit antenna
R = distance (cm)

As we can see from the test report 2410B0917SHA-002:

Here R is chosen to be 20cm,

Mode	Frequency Range (MHz)	P		G		R (cm)	S (mW/cm^2)	Limit (mW/cm^2)
		(dBm)	(mW)	(dBi)	(Numeric)			
Bluetooth	2402 - 2480	3.09	2.04	-3.13	0.49	20	0.0002	1

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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.

********** END **********