

Beijing Roborock Technology Co., Ltd. MPE ASSESSMENT REPORT

Report Type: FCC MPE assessment report

Model: QX0PEA

REPORT NUMBER: 230101330SHA-002

ISSUE DATE: Feb 23, 2023

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TEST REPORT	Telephone: 86 21 6127 8200 www.intertek.com
	Report no.: 230101330SHA-002
Applicant:	Beijing Roborock Technology Co., Ltd.
Manufacturer:	Floor 6, Suite 6016, 6017, 6018, Building C, Kangjian Baosheng Plaza, No.8 Heiquan Road, Haidian District, Beijing, P.R. China Beijing Roborock Technology Co., Ltd.
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Intertek Testing Services Shanghai

FCC ID: 2AN2O-QX0PEA01

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 Part2.1093 FCC Part1.1307(b)

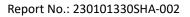
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Revision History

Report No.	Version	Description	Issued Date
230101330SHA-002	Rev. 01	Initial issue of report	Feb 23, 2023

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1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Robotic Vacuum Cleaner		
Type/Model/PMN:	QX0PEA		
HVIN:	QX0PEA-BLM8		
	EUT is a Robotic Vacuum Cleaner. EUT supports WIFI function. There is		
Description of EUT:	only one model and the worst data is listed in the report.		
Rating:	Rated input: 20VDC, 1.5A		
Category of EUT:	Class B		
EUT type:	Table top 🛛 Floor standing		
Software Version:	V1.0		
Hardware Version:	V1.0		
Sample No.:	0230115-42-003		
Sample received date:	Feb 1, 2023		
Date of test:	Feb 1~21, 2023		

1.2 Technical Specification

Frequency Range:	2412MHz ~ 2462MHz			
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20, IEEE 802.11n-HT40			
	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)			
	IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)			
	IEEE 802.11n-HT20: OFDM (64-QAM, 16-QAM, QPSK, BPSK)			
Type of Modulation:	IEEE 802.11n-HT40: OFDM (64-QAM, 16-QAM, QPSK, BPSK)			
	11 Channels for 802.11b, 802.11g and 802.11n(HT20)			
Channel Number:	7 Channels for 802.11n(HT40)			
	IEEE 802.11b: Up to 11 Mbps			
	IEEE 802.11g: Up to 54 Mbps			
	IEEE 802.11n-HT20: Up to MCS7			
Data Rate:	IEEE 802.11n-HT40: Up to MCS7			
Channel Separation:	5 MHz			
Antenna Information:	2.54dBi, PCB antenna			

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1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai		
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 L0139
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab 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

Mobile device exposure for standalone operations:

Frequency range	E-field strength	H-field strength	B-field	Equivalent plane wave
	(V/m)	(A/m)	(uT)	power density
				S _{eq} (W/m²)
0-1 Hz	-	3,2 × 10 ⁴	4×10^{4}	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	4 000/f	5 000/f	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	87/f ^{1/2}	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	1,375 f ^{1/2}	0,0037 f ^{1/2}	0,0046 f ^{1/2}	f/200
2-300 GHz	61	0,16	0,20	10

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

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2.2 Assessment Results

Power density (S) is calculated according to the formula: S = PG / (4πR²) Where S = power density in mW/cm² P = Radiated transmit power in mW G = numeric gain of transmit antenna R = distance (cm)

As we can see from the test report 230101330SHA-001: The maximum radiated power = 22.19dBm = 165.58 mW; Here R is chosen to be 20cm,

S = PG / $(4\pi R^2)$ = 165.58/ (4 * 3.14 * 20 * 20) = 0.0329mW/cm² < 1 mW/cm²



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.