

Beijing Roborock Technology Co., Ltd.

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

H158A-S

REPORT NUMBER:

210403421SHA-002

ISSUE DATE:

May 12, 2021

DOCUMENT CONTROL NUMBER:

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Report no.: 210403421SHA-002

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Manufacturer: Beijing Roborock Technology Co., Ltd.

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Manufacturer site: Beijing Roborock Technology Co., Ltd.

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FCC ID: 2AN2O-RSW04

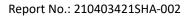
SUMMARY:

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)

PREPARED BY:	REVIEWED BY:	
Wade zhang	Daniel.	
Project Engineer	Reviewer	
Wade Zhang	Daniel Zhao	

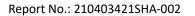
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Revision History

Report No.	Version	Description	Issued Date	
210403421SHA-002	Rev. 01	Initial issue of report	May 12, 2021	





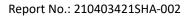
1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	WIFI Module
Type/Model:	H158A-S
	The EUT is a WIFI module which supports 2.4GHz technology, there
Description of EUT:	have only one model.
Rating:	DC 3.3V
EUT type:	☐ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	April 27, 2021
Date of test:	April 27, 2021 ~ May 10, 2021

1.2 Technical Specification

Frequency Band:	2400MHz ~ 2483.5MHz				
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20), IEEE 802.11n(HT40)				
	412MHz to 2462MHz for IEEE 802.11b/g/n(HT20)				
Operating Frequency:	2422MHz to 2452MHz for 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)				
Channel Separation:	5 MHz				
Antenna Information:	3.7dBi, PCB antenna				

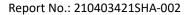




1.3 Description of Test Facility

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,	CNAS Accreditation Lab Registration No. CNAS L0139
certified, or accredited by these organizations:	FCC Accredited Lab
organizations.	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02





2 MPE Assessment

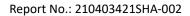
Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density Seq (W/m²)
0-1 Hz	-	3,2 × 10 ⁴	4 × 10 ⁴	- Jeq (**/111)
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





TEST REPORT

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 = Radiated transmit power in mW

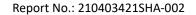
G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 210403421SHA-001:

The maximum radiated power = 21.45dBm = 139.64 mW; Here R is chosen to be 20cm,

	Frequency range	Power		Antenna Gain		R	S	Limits
	(MHz)	dBm	mW	dBi	(Numeric)	(cm)	(mW/cm ²)	(mW/cm²)
Ī	2412 - 2462	21.45	139.64	3.7	2.34	20	0.065	1





Appendix I

To satisfy FCC RF exposure requirements,	, a separation	distance of	20 cm or	more shoul	d be

Definition below must be outlined in the User Manual:

maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.