

Report No.: SZCR210702234903

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RF Exposure Evaluation Report

Application No.: SZCR2107022349AT

Applicant: Realme Chongqing Mobile Telecommunications Corp., Ltd.

Address of Applicant: No.178 Yulong Avenue, Yufengshan Yubei District, Chongqing, China

Manufacturer: Realme Chongqing Mobile Telecommunications Corp., Ltd.

Address of Manufacturer: No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

Factory: Guangdong WangJia Intelligent Robot Co., LTD.

Address of Factory: Room 301, Building 5, No.1 Junma Road, Humen Town, Dongguan,

Guangdong, China

Equipment Under Test (EUT):

Product Name: Robot Vacuum

Model No.: RMH2101

Trade Mark: realme TechLife
FCC ID: 2AUYFRMH2101

Standards: 47 CFR Part 1.1307

47 CFR Part 1.1310 47 CFR Part 2.1091

Date of Receipt: 2021-07-26

Date of Test: 2021-07-29 to 2021-08-03

Date of Issue: 2021-08-04

Test Result : PASS*

Keny Xu EMC Laboratory Manager

Ceny. xu



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^{*} In the configuration tested, the EUT complied with the standards specified above.



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2 Version

Revision Record						
Version	Chapter	Date	Modifier	Remark		
01		2021-08-04		Original		

Authorized for issue by:			
	Concert Chen		
	Vincent Chen/Project Engineer	-	
	Eric Fu		
	Eric Fu/Reviewer	-	



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4 General Information

4.1 General Description of EUT

Power supply:	Powered by Li-ion Battery DC 14.4V, 5200mAh		
	Charged by charging Base		
	Model: RMH2101CB		
	Rated Input: DC 20V, 1000mA		
	Rated Output: DC 20V, 1000mA		
	Charging base powered by AC adapter model: GA241-2001000U		
	Input: AC 100-240V, 50/60Hz, 0.6A		
	Output: DC 20V, 1000mA		
Cable(s):	DC cable from Adapter 156.5cm unshielded non-core.		
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz;		
	802.11n(HT40): 2422MHz to 2452MHz		
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK);		
	802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)		
Number of Channels:	802.11b/g/n(HT20):11;		
	802.11n(HT40):7		
Channel Spacing:	5MHz		
Antenna Type:	Integral Antenna		
Antenna Gain:	2dBi		



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4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC -Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

4.4 Deviation from Standards

None

4.5 Abnormalities from Standard Conditions

None

4.6 Other Information Requested by the Customer

None.



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5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

Table 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)			
(A) Limits for Occupational/Controlled Exposures							
0.3–3.0	614 1842/f 61.4	1.63 4.89/f 0.163	*(100) *(900/f²) 1.0 f/300	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			
(B) Limits	for General Populati	on/Uncontrolled Exp	oosure				
0.3–1.34	614 824/f 27.5	1.63 2.19/f 0.073	*(100) *(180/f²) 0.2 f/1500 1.0	30 30 30 30 30			

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*Pi*R2)

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 id the limit of MPE, 1 mW/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.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



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4.1.3 EUT RF Exposure Evaluation

Antenna Gain: 2dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.59 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency	Max Conducted	Output Power	Power Density	Limit	Result
	(MHz)	Peak Output	to Antenna	at R = 20 cm		
		Power (dBm)	(mW)	(mW/cm ²)		
Lowest	2412	16.72	46.99	0.0148	1.0	PASS

Note: Refer to report No. SZCR210702234902 for EUT test Max Conducted Peak Output Power value. The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

- End of the Report -



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