

TEST REPORT

Reference No. : WTS19S01000191W-2
FCC ID..... : 2ARZX-D550
Applicant : Shenzhen Proscenic Technology Co., Ltd
Address : Room 502 Jinshun Bulding A block, No 287 Ruyi Road, Ailian
Community, Longgang District, Shenzhen, China
Manufacturer : RuiXin Plastics &Electronics(ShenZhen) Co., Ltd
Address : Huang Pu Road, Shang Liao Village, Sha Jing Town, Bao An district,
Shen Zhen City 518125 Guang Dong Province China
Product : Robot Vacuum Cleaner
Model(s)..... : LDS D550
Standards : FCC CFR47 Part 1 Section 1.1037:2018
FCC CFR47 Part 2 Section 2.1091:2018
Date of Receipt sample : 2018-12-24
Date of Test..... : 2018-12-24 to 2019-01-24
Date of Issue : 2019-01-24
Test Result : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

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2 Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation, the certification number is 4243.01) of USA, CNAS (China National Accreditation Service for Conformity Assessment, the registration number is L3110) of China. Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), ISED Canada (Innovation, Science and Economic Development Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.



Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. ElectroMagnetic Compatibility(EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

2.1 Test Facility

A. Accreditations for Conformity Assessment (International)

Country/Region	Scope Covered By	Scope	Note
USA	ISO/IEC 17025	FCC ID \ SDoC(VOC/DOC)	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India		WPC	-
Thailand		NTC	-
Singapore		IDA	-
Note: 1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476. 2. ISED Canada Registration No.: CN0013.			

B.TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of ...	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd.	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

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4 Revision History

Test report #	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS19S01000191W-2	2018-12-24	2018-12-24 to 2019-01-24	2019-01-24	original	-	Valid

5 General Information

5.1 General Description of E.U.T

Product:	Robot Vacuum Cleaner
Model(s):	LDS D550, LDS D500, Cocosmart 880T, Cocosmart 880L, GT320, Cocosmart 860T, Cocosmart 800T, Cocosmart 820T, Cocosmart 920T, Cocosmart 930T, Cocosmart 960T, Cocosmart 960L, Cocosmart 970T, Cocosmart 980T, Cocosmart 980L, Cocosmart 990T, LDS R2, LDS R5, LDS R9, LDS R11, LDS M6, LDS M7, LDS M8, LDS M9, LDS M10, LDS D580, LDS D590, LDS D660, LDS D720, GT330, GT350, GT400, GT430, GT490, GT500, GT520, GT560, GT600, GT630, GT680, GT700, GT750, GT780, Pro 300, Pro 500, Pro 600, Pro 700, 811GB, 911SE, Viper 520, Viper 570, Viper 580
Model difference:	Only the model name and color are different. The model LDS D550 is the tested sample.
Operation Frequency:	802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz~2452MHz
Antenna installation:	Integrated Antenna
Antenna Gain:	1.4 dBi
Type of modulation:	IEEE 802.11b (CCK/QPSK/BPSK,11Mbps max.) IEEE 802.11g (BPSK/QPSK/16QAM/64QAM,54Mbps max.) IEEE 802.11n (BPSK/QPSK/16QAM/64QAM,HT20:72Mbps max., HT40:150Mbps max.)

5.2 Details of E.U.T

Ratings	14.4V for battery; adapter GQ12-240060-AG Input: 100-240V 50/60Hz 0.4A Max Input: 24V==600mA
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6 RF Exposure

Test Requirement: FCC Part 1.1307

Test Method: FCC Part 2.1091

6.1 Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

6.2 Evaluation Result

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the EUT RF output power, the minimum mobile separation distance, $d=0.2\text{m}$, as well as the gain of the used antenna, the RF power density can be obtained

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Tune-Up Power (dBm)	Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)
1.4	1.38	17.0	50.12	0.0138	1

Result: Compliance

No SAR measurement is required.

=====End of Report=====