

Puppy Electronic Appliances Internet Technology Beijing Co.,Ltd

MPE ASSESSMENT REPORT

Report Type:

FCC MPE assessment report

Model:

R30, R35

REPORT NUMBER:

190702274SHA-007

ISSUE DATE:

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DOCUMENT CONTROL NUMBER:

TTRFFCCMPE-01_V1 © 2018 Intertek



Applicant: Puppy Electronic Appliances Internet Technology Beijing Co.,Ltd
7-605, 6th floor, No. 1 Building, No. 8 Courtyard, Guanghua Road,
Chaoyang District, Beijing, China

Manufacturer: Shenzhen Silver Star Intelligent Technology Co., Ltd.
Building A1, Silver Star Hi-Tech Industrial Park, Guanguang Road,
Guanlan Street, Longhua District, Shenzhen, Guangdong, China

FCC ID: 2AUJOR-3035

SUMMARY:

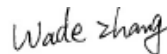
The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v06

FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:**REVIEWED BY:**

Project Engineer
Stephanie Zhang



Reviewer
Wade Zhang

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Revision History

Report No.	Version	Description	Issued Date
190702274SHA-007	Rev. 01	Initial issue of report	Aug 29, 2019

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Robot Vacuum Cleaner
Type/Model:	R30 ,R35
Description of EUT:	The EUT is a vacuum cleaner which contains a WIFI 2.4GHz module. R30 & R35 share the same WIFI module, therefore we tested R30 as representative.
Rating:	R30 14,4V DC; Docking station: Class II, Input:100-240VAC,50-60Hz Output: DC19V, 0.6A R35 14,8V DC; Docking station: Class II, Input:100-240VAC,50-60Hz Output: DC24V, 1A
Category of EUT:	Class B
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	7/22/2019
Date of test:	7/22/2019 ~ 8/29/2019

1.2 Technical Specification

Frequency Range:	2400MHz ~ 2483.5MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20
Type of Modulation:	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)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20)
Data Rate:	IEEE 802.11b: Up to 11 Mbps IEEE 802.11g: Up to 54 Mbps IEEE 802.11n-HT20: Up to MCS7
Channel Separation:	5 MHz
Antenna Information:	2dBi, 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, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab Registration code No.: 2042B-1
	VCCI Registration Lab Registration No.: R-4243, G-845, C-4723, T-2252
	NVLAP Accreditation Lab NVLAP LAB CODE: 200849-0
	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 S_{eq} (W/m ²)
0-1 Hz	-	$3,2 \times 10^4$	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 ≤ 1.0**

2.2 Assessment Results

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

$$S = P / (4\pi R^2)$$

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 190702274SHA-005:

The maximum radiated power = 13.44dBm = 22.08mW;

Here R is chosen to be 20cm,

$$S = P / (4\pi R^2) = 22.08 / (4 * 3.14 * 20 * 20) = 0.0044 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

TEST REPORT

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 *****