

# Suzhou Le Tu Intelligent Technology Co., Ltd.

## MPE ASSESSMENT REPORT

**Report Type:**

FCC MPE assessment report

**Model:**

NR200, NR200L, NR200.\*, NR200L.\*  
(\* = 1-99 or A-Z or M1-M9)

**REPORT NUMBER:**

220802106SHA-002

**ISSUE DATE:**

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**DOCUMENT CONTROL NUMBER:**

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**Manufacturer:** Suzhou Le Tu Intelligent Technology Co., Ltd.  
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215123, P.R.China

**FCC ID:** 2A8GFNR200L

**SUMMARY:**

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

KDB447498 D04 Interim General RF Exposure Guidance v01  
FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

**PREPARED BY:**

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**REVIEWED BY:**

Reviewer  
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## Revision History

Report No.	Version	Description	Issued Date
220802106SHA-002	Rev. 01	Initial issue of report	December 2, 2022

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

Product name:	ROBOT VACUUM AND MOP
Type/Model:	NR200, NR200L, NR200.*, NR200L.*(*=1-99 or A-Z or M1-M9)
Description of EUT:	EUT is Robotic mopping cleaner with WIFI function, all models are same except model names, after evaluation, we choose NR200 for all tests.
Rating:	16.8V battery
EUT type:	<input type="checkbox"/> Table top <input checked="" type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	September 12, 2022
Date of test:	September 12, 2022 – October 28, 2022

### 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)
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) IEEE 802.11n(HT40): OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Operating Frequency:	2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20) 2422MHz to 2452MHz for IEEE 802.11n(HT40)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20) 7 Channels for 802.11n(HT40)
Channel Separation:	5 MHz
Antenna:	PCB Antenna, 2.76dBi

### 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

## 2 MPE Assessment

Test result: Pass

### 2.1 MPE Test Exclusion Limit

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 to support an exemption from further evaluation from 300 kHz through 100 GHz.

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES  
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency			Minimum Distance			Threshold ERP
$f_L$ MHz		$f_H$ MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	–	1.34	159 m	–	35.6 m	1,920 R <sup>2</sup>
1.34	–	30	35.6 m	–	1.6 m	3,450 R <sup>2</sup> /f <sup>2</sup>
30	–	300	1.6 m	–	159 mm	3.83 R <sup>2</sup>
300	–	1,500	159 mm	–	31.8 mm	0.0128 R <sup>2</sup> f
1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R <sup>2</sup>
Subscripts L and H are low and high; $\lambda$ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.						

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least  $\lambda/2\pi$ . The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator.

For mobile devices that are not exempt per Table B.1 at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP<sub>20cm</sub> in Formula (B.1)

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

## 2.2 Assessment Results

As we can see from the test report 220802106SHA-001:

Mode	Power	Antenna Gain	EIRP	Exclusion $P_{th}$ Limits@20cm
	dBm	dBi	mW	mW
WiFi	15.09	2.76	60.95	3060

WiFi transmitting EIRP < Exclusion  $P_{th}$  Limits@20cm

the worst MPE ratios is: WiFi EIRP/  $P_{th}$  =60.95/3060=0.0199<1.0

Therefore, the MPE requirement is deemed to be satisfied without test.

## 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 \*\*\*\*\*