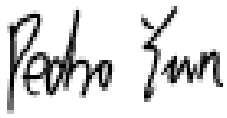
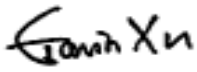
NVLAP LAB CODE 600341-0

MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

Applicant:	**Zhiyi (Zhongshan) Technology Co., Ltd.**
Address:	**No. 39, Donghui Road,Cuiheng New District, 528400 Zhongshan, Guangdong, China**
Product Name:	**Robotic vacuum cleaner**
FCC ID:	**2BD8J-X391S**
Standard(s):	**47 CFR §1.1310, 47 CFR §2.1091, 47 CFR §15.247(i), 47 CFR §15.407(f)**
Report Number:	**2402Y68919E-RF-00E**
Report Date:	**2024/11/30**

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).





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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402Y68919E-RF-00E	Original Report	2024/11/30

1. GENERAL INFORMATION

1.1 General Description Of Equipment under Test

EUT Name:	Robotic vacuum cleaner
EUT Model:	X391S
Multiple Models:	A12 Pro, A12 Plus, A12 Max, A15 Pro, A13 Pro
Rated Input Voltage:	DC 14.4V from Battery or DC 19V from Charging Dock
EUT Received Date:	2024/10/9
EUT Received Status:	Good

Note:
1. The multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.
2. There are two Configurations, Configuration 1# and Configuration 2#.The difference between the two Configurations is Configuration 1# with Fan 1#+Battery 1# and Configuration 2# with Fan 2# +Battery 2#.

2. RF EXPOSURE EVALUATION (MPE)

2.1 RF Exposure Evaluation

2.1.1 Applicable Standard

According to subpart 15.247(i) ,15.407(f)and subpart §1.1310, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

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

According to §1.1310 and §2.1091 RF exposure is calculated.

2.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

2.1.3 Calculated Data:

Operation Modes	**Frequency (MHz)**	**Antenna Gain**		**Conducted output power including Tune-up Tolerance**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
BT	2402-2480	2.67	1.85	9	7.94	20.00	0.003	1.0
BLE	2402-2480	2.67	1.85	5.5	3.55	20.00	0.001	1.0
2.4G Wifi	2412-2462	2.67	1.85	22.5	177.83	20.00	0.065	1.0

Note:
The Conducted output power including Tune-up Tolerance provided by manufacturer.

BT, BLE and 2.4G Wifi can't transmit simultaneously.

Result: The device meet FCC MPE at 20 cm distance.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Y68919E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Y68919E-RF-INP EUT INTERNAL PHOTOGRAPHS.

******* END OF REPORT *******