

# Xingmai Innovation Technology (Suzhou) Co., Ltd

## MPE ASSESSMENT REPORT

**Report Type:**

FCC MPE assessment report

**MODEL:**

PRCSSF01A

**REPORT NUMBER:**

2407B0604SHA-003

**ISSUE DATE:**

September 11, 2024

**DOCUMENT CONTROL NUMBER:**

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**Applicant:** Xingmai Innovation Technology (Suzhou) Co., Ltd.  
12F, Building 5, Tianyun Square, 111 Wusongjiang Avenue, GuoXiang sub-District, Wuzhong District, Suzhou City

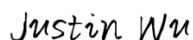
**Manufacturer:** Xingmai Innovation Technology (Suzhou) Co., Ltd.  
12F, Building 5, Tianyun Square, 111 Wusongjiang Avenue, GuoXiang sub-District, Wuzhong District, Suzhou City

**FCC ID:** 2BAJA-PRCSSF01A

**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:**

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Project Engineer  
Justin Wu



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Reviewer  
Wakeyou Wang

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## Revision History

Report No.	Version	Description	Issued Date
2407B0604SHA-003	Rev. 01	Initial issue of report	September 11, 2024

## 1 GENERAL INFORMATION

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

Product name:	Robot pool cleaner
Type/Model:	PRCSSF01A
Description of EUT:	The EUT is a Robot pool cleaner with WIFI and Bluetooth function.
Rating:	DC7.2V, 10W Adapter (RMCF01): Rated input:110-240V, 50/60Hz, 1A; Wireless Output: 12Vdc, 2A, 24W
EUT type:	<input type="checkbox"/> Table top <input checked="" type="checkbox"/> Floor standing
Software Version:	/
Hardware Version:	/
Sample received date:	August 19, 2024
Date of test:	August 19, 2024 ~ August 30, 2024

### 1.2 Technical Specification

Frequency Band:	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
Antenna Information:	5.67dBi, PCB Antenna

Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	Bluetooth LE 4.2
Type of Modulation:	GFSK
Channel Number:	40
Data Rate:	1Mbps
Antenna Information:	5.67dBi, PCB Antenna

## TEST REPORT

### 1.3 Description of Test Facility

Name:	Intertek Testing Services (Shanghai FTZ) Co., Ltd.
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 L21189
	FCC Accredited Lab Designation Number: CN0175
	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Member No.: 3598 (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 Assessment Limit

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is  $\leq 1.0$**

## 2.2 Assessment Results

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

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

Where S = power density in mW/cm<sup>2</sup>

P = Power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 2407B0604SHA-001 and 2407B0604SHA-002:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Here R is chosen to be 20cm,

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
WIFI	2412-2462	17.14	5.67	20	0.0380	1
BLE	2402-2480	5.98	5.67	20	0.0029	1

Note: 1 mW/cm<sup>2</sup> from 1.310 Table 1

BLE and WIFI can not transmit signals at the same time.

The MPE assessment value is 0.0380 < 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 \*\*\*\*\*