



# FCC TEST REPORT

## FCC ID: 2BCZA-OB16

|                  |   |                      |
|------------------|---|----------------------|
| Product          | : | sweeping robot       |
| Model Name       | : | OB16                 |
| Additional model | : | OB16Pro              |
| Brand            | : | obowAI®              |
| Report No.       | : | PTC23070700702E-FC01 |

### Prepared for

Guangdong obao Intelligent Electric Appliance Co., LTD  
Chenghai District, Shantou City, Chenghua Street, New Jia Dongyuan Road, 9 fifth, sixth floor

### Prepared by

Precise Testing & Certification Co., Ltd.  
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Report No.: PTC23070700702E-FC02

## TEST RESULT CERTIFICATION

Applicant's name : Guangdong obao Intelligent Electric Appliance Co., LTD  
Address : Chenghai District, Shantou City, Chenghua Street, New Jia Dongyuan Road, 9 fifth, sixth floor  
Manufacturer's name : Guangdong obao Intelligent Electric Appliance Co., LTD  
Address : Chenghai District, Shantou City, Chenghua Street, New Jia Dongyuan Road, 9 fifth, sixth floor  
Product name : sweeping robot  
Model name : OB16, OB16Pro  
Test procedure : FCC CFR47 Part 1.1307(b)(1)  
Test Date : Sep. 27, 2023 to Oct. 09, 2023  
Date of Issue : Oct. 19, 2023  
Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink that appears to read "Jack Zhou".

Jack Zhou / Engineer

Technical Manager:

A handwritten signature in black ink that appears to read "Simon Pu".

Simon Pu / Manager



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## 2 Test Summary

| Test Items  | Test Requirement | Result |
|---|------------------|--------|
| Maximum Permissible Exposure<br>(Exposure of Humans to RF Fields) | 15.247 (i)       | PASS   |
| Remark:   |                  |        |
| N/A: Not Applicable   |                  |        |



### 3 General Information

#### 3.1 General Description of E.U.T.

|                       |   |  |
|-----------------------|---|--|
| Product Name          | : | sweeping robot   |
| Model Name            | : | OB16   |
| Additional model      | : | OB16Pro  |
| Model difference      | : | Only the size and parameters are different.  |
| Specification         | : | 802.11b/g/n HT20   |
| Operation Frequency   | : | 2412-2462MHz for 802.11b/g/ n(HT20)  |
| Number of Channel     | : | 11 channels for 802.11b/g/ n(HT20)   |
| Type of Modulation    | : | DSSS with DBPSK/DQPSK/CCK for 802.11b;<br>OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n; |
| Antenna installation  | : | PCB Antenna  |
| Antenna Gain          | : | 2.54 dBi   |
| Power supply          | : | Input: DC 19V, 500mA<br>Output: DC 14.4V,1500mA  |
| Hardware Version/HMN  | : | V3.0   |
| Software Version/FVIN | : | 1.4.6  |



## 4 RF Exposure

Test Requirement : 15.247 (i)

Evaluation Method : FCC Part 2.1091

### 4.1 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 of the 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.

### 4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

| Frequency Range | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 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 | Electric Field | Magnetic Field | Power Density (S) | Averaging Time |
|-----------------|----------------|----------------|-------------------|----------------|
| 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



#### 4.3 MPE Calculation Method

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

E = Electric field (V/m)

P = Peak 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

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

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

#### 4.4 Test Result

| Item | Antenna Gain (numeric) | Max. Peak Output Power (dBm) | Tune up tolerance (dBm) | Max Tune Up Power (mW) | Power Density (mW/cm <sup>2</sup> ) | Limit of Power Density (mW/cm <sup>2</sup> ) | Result |
|------|------------------------|------------------------------|-------------------------|------------------------|-------------------------------------|--|--------|
| 2412 | 1.79                   | 24.26                        | 24.26±1                 | 335.737614             | 0.1199                              | 1  | Pass   |

\*\*\*\*\*THE END REPORT\*\*\*\*\*