



# RF Exposure Report

For

**Applicant Name:**

**PHROZEN TECH CO.,LTD.**

Address:

3F.,NO287,NIUPU RD.,XIANGSHAN DIST.,HSINCHU CITY  
30091,TAIWAN(R.O.C)

EUT Name:

Desktop 3D Printer

Brand Name:



Model Number:

Phrozen Sonic XL 4K Plus

**Issued By**

**Company Name:**

**BTF Testing Lab (Shenzhen) Co., Ltd.**

Address:

F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,  
Tantou Community, Songgang Street, Bao'an District, Shenzhen,  
China

Report Number:

BTF230825R00302

Test Standards:

47 CFR Part 2 Subpart J Section 2.1091

FCC ID:

2BCTP-XL4KPLUS

Test Conclusion:

Pass

Test Date:

2023-08-28 to 2023-11-10

Date of Issue:

2023-11-13

Prepared By:

Chris Liu / Project Engineer  
2023-11-13

Date:

Approved By:

Ryan.CJ / EMC Manager

Date:

2023-11-13

*Note: All the test results in this report only related to the testing samples. Which can be duplicated completely for the legal use with approval of applicant; it shall not be reproduced except in full without the written approval of BTF Testing Lab (Shenzhen) Co., Ltd., All the objections should be raised within thirty days from the date of issue. To validate the report, you can contact us.*



| Revision History |                                                                                     |                   |
|------------------|-------------------------------------------------------------------------------------|-------------------|
| Version          | Issue Date                                                                          | Revisions Content |
| R_V0             | 2023-11-13                                                                          | Original          |
|                  |                                                                                     |                   |
| <i>Note:</i>     | <i>Once the revision has been made, then previous versions reports are invalid.</i> |                   |

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## 1. Introduction

### 1.1 Identification of Testing Laboratory

|               |                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Company Name: | BTF Testing Lab (Shenzhen) Co., Ltd.                                                                                                |
| Address:      | F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China |
| Phone Number: | +86-0755-23146130                                                                                                                   |
| Fax Number:   | +86-0755-23146130                                                                                                                   |

### 1.2 Identification of the Responsible Testing Location

|                          |                                                                                                                                                                                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Location:           | BTF Testing Lab (Shenzhen) Co., Ltd.                                                                                                                                                                               |
| Address:                 | F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China                                                                                |
| Description:             | All measurement facilities used to collect the measurement data are located at F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China |
| FCC Registration Number: | 518915                                                                                                                                                                                                             |
| Designation Number:      | CN1330                                                                                                                                                                                                             |

### 1.3 Laboratory Condition

|                            |                    |
|----------------------------|--------------------|
| Ambient Temperature:       | 20°C to 25°C       |
| Ambient Relative Humidity: | 45% to 55%         |
| Ambient Pressure:          | 100 kPa to 102 kPa |

### 1.4 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

## 2. Product Information

### 2.1 Application Information

|               |                                                                         |
|---------------|-------------------------------------------------------------------------|
| Company Name: | PHROZEN TECH CO.,LTD.                                                   |
| Address:      | 3F.,NO287,NIUPU RD.,XIANGSHAN DIST.,HSINCHU CITY<br>30091,TAIWAN(R.O.C) |

### 2.2 Manufacturer Information

|               |                                                                         |
|---------------|-------------------------------------------------------------------------|
| Company Name: | PHROZEN TECH CO.,LTD.                                                   |
| Address:      | 3F.,NO287,NIUPU RD.,XIANGSHAN DIST.,HSINCHU CITY<br>30091,TAIWAN(R.O.C) |

### 2.3 Factory Information

|               |                                                                         |
|---------------|-------------------------------------------------------------------------|
| Company Name: | PHROZEN TECH CO.,LTD.                                                   |
| Address:      | 3F.,NO287,NIUPU RD.,XIANGSHAN DIST.,HSINCHU CITY<br>30091,TAIWAN(R.O.C) |

### 2.4 General Description of Equipment under Test (EUT)

|                               |                          |
|-------------------------------|--------------------------|
| EUT Name                      | Desktop 3D Printer       |
| Under Test Model Name         | Phrozen Sonic XL 4K Plus |
| Hardware Version              | PZPC2023V1               |
| Software and Firmware Version | N/A                      |

### 3. Test Requirement

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b), Limits for Maximum Permissible Exposure (MPE),

| Frequency range (MHz)                                   | Electric field strength(V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|---------------------------------------------------------|------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposures        |                              |                               |                                     |                          |
| 0.3–3.0                                                 | 614                          | 1.63                          | *(100)                              | 6                        |
| 3.0–30                                                  | 1842/f                       | 4.89/f                        | *(900/f <sup>2</sup> )              | 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 |                              |                               |                                     |                          |
| 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                       |

Note: f = frequency in MHz

#### EVALUATION METHOD

Transmission formula:  $Pd = (Pout*G)/(4*pi*r^2)$

Where

**Pd** = power density in mW/cm<sup>2</sup>, **Pout** = output power to antenna in mW, **G** = gain of antenna in linear scale; **Pi** = 3.1416, **R** = distance between observation point and center of the radiator in cm

### 3.1 Assessment Result

Passed       Not Applicable

| Frequency (MHz) | Type    | Conducted Power (dBm) | Maximum Tune-up (dBm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|-----------------|---------|-----------------------|-----------------------|-------------------------------------|-----------------------------|--------|
| 2462            | 802.11b | 15.98                 | 16.00                 | 0.0131                              | 1.0000                      | Pass   |

Note: The exposure evaluation safety distance is 20cm.



Test Report Number: BTF230825R00302



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Bao'an District, Shenzhen, China

[www.btf-lab.com](http://www.btf-lab.com)

**--END OF REPORT--**