

1 Cover Page

RF Exposure REPORT

Application No.: SHEM2106006266CR
FCC ID: 2A2CXFBBL101
Applicant: Suijimanbu (SHANGHAI) Sports Technology Co. Ltd.
Address of Applicant: 1201 Building B, Greenbelt Cnvergence Center, 500 Yunjin Road, Xuhui District, Shanghai, China
Manufacturer: Suijimanbu (SHANGHAI) Sports Technology Co. Ltd.
Address of Manufacturer: 1201 Building B, Greenbelt Cnvergence Center, 500 Yunjin Road, Xuhui District, Shanghai, China
Factory: WNQ (Shanghai) Body-building Equipment Co., Ltd
Address of Factory: No.388, Belying Road, No.1588, Beiyong Road, Qingpu Area, Shanghai, China
Equipment Under Test (EUT):
EUT Name: Dumbbell
Model No.: freebell
Trade mark: freebeat
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2021-06-17
Date of Test: 2021-06-22 to 2021-07-01
Date of Issue: 2021-07-07

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlan Zhan

Parlan Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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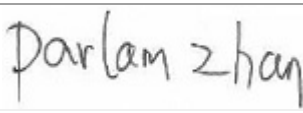
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Testing Center E&E Services

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Revision Record			
Version	Description	Date	Remark
00	Original	2021-07-07	/

Authorized for issue by:			
			
		Vincent Zhu /Project Engineer	
			
		Parlam Zhan /Reviewer	





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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 3.7V, 360mAh Rechargeable battery
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3.2 Details of E.U.T.

Antenna Gain:	0dBi (Provided by manufacturer)
Antenna Type:	PCB Antenna
Bluetooth Version:	V5.0 LE
Data Rate:	1Mb/s , 2Mb/s
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Operation Frequency:	2402MHz to 2480MHz





3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 6332.01)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- **FCC (Designation Number: CN1301)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory
Company Number: 8617A

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.



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4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})]*[\sqrt{f}(\text{GHz})] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion. For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 * D_{\text{min}} / \sqrt{f} = 3.0 * 5 / \sqrt{2.480} = 9.525 \text{mW}$$



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM210600626601.

Test Data:

Test Mode	Test Channel	Power[dBm]		Peak Power (mW)	
		1M	2M	1M	2M
BLE	2402	0.28	0.32	1.07	1.08
BLE	2440	-0.47	-0.46	0.90	0.90
BLE	2480	-2.61	-2.56	0.55	0.55

5.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 1.08mW. The best case gain of the antenna is 0dBi. 0dBi logarithmic terms convert to numeric result is nearly 1.

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 1.08 \text{ mW} \times 1 = 1.08\text{mW} < 9.525\text{mW}$$

So the SAR report is not required.

--End of the Report--

