



RF Exposure Evaluation Report

Application No.: GZEM2102000759CR
Applicant: Guangdong Transtek Medical Electronics Co., Ltd.
Address of Applicant: Zone A, No.105, Dongli Road, Torch Development District, Zhongshan, 528437, Guangdong, China
Manufacturer: Guangdong Transtek Medical Electronics Co., Ltd.
Address of Manufacturer: Zone A, No.105, Dongli Road, Torch Development District, Zhongshan, 528437, Guangdong, China
Factory: Guangdong Transtek Medical Electronics Co., Ltd.
Address of Factory: Zone B, No.105, Dongli Road, Torch Development District, Zhongshan, 528437, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Activity Tracker
Model No.: LS431-B3
Standard(s) : 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498 D01
Date of Receipt: 2021-02-07
Date of Test: 2021-02-08 to 2021-03-05
Date of Issue: 2021-03-17

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

Kobe Jian
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-03-17		Original

Authorized for issue by				
Tested By		 <hr/> Curry Wu/Project Engineer		
Reviewed By		 <hr/> Ricky Liu/Reviewer		



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3 General Information

3.1 Details of E.U.T.

Power supply: DC 5V charging supply by USB port
 DC 3.7V supply by internal battery as below:
 Model: LH096T-IC18

Operation Frequency: 2402MHz to 2480MHz

Modulation Type: GFSK

Number of Channels: 40

Channel Spacing: 2MHz

Antenna type: PCB antenna

Antenna gain: 4 dBi declared by applicant

Hardware version: V5.1

Software version: T311

Test software: nRFgo studio.exe(version:1.21.2.10)

Sample no.: A1

Power setting: 4 dBm can not be changed by user

3.2 Description of Support Units

The EUT has been tested as an independent unit.

3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
 198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
 Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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3.4 Test Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

- **Industry Canada (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-10449 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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3.5 Deviation from Standards

None

3.6 Abnormalities from Standard Conditions

None



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4 Technical Requirements Specification

4.1 General Description of Applied Standards

4.2 RF Exposure Evaluation

4.2.1 Limit & Test Method

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:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 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 before calculation¹⁷
- The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

4.2.2 Test Data and Test Result

The Max Conducted Peak Output Power 4.33 dBm on the lowest channel 2.48 GHz
4.33 dBm logarithmic terms convert to numeric result is nearly 2.71 mW

According to the formula, calculate the test exclusion thresholds:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(2.71 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.48 \text{ GHz}} = 0.85$ (1)

SAR requirement:

$S = 3.0$ (2)

$(1) < (2)$

So the SAR report is not required.



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5 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for GZEM2102000759CR

- End of the Report -



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