

Test Report

Verified code: 053452

Report No.: E20220906368001-3

Customer: Carbon HealthTechnologies, Inc.

Address: 2100 Franklin Street Suite 355, Oakland, 94612, California, USA

Sample Name: LogBand

Sample Model: CH-M1-11

Receive Sample Date: Sep.07,2022

Test Date: Sep.08,2022 ~ Sep.21,2022

Reference Document: CFR 47, FCC Part 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

Test Result: Pass

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Reviewed by: Jiang Tao

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GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-11-30

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20220906368001-3	Original Issue	2022-09-23

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1. GENERAL DESCRIPTION OF EUT

1.1 APPLICANT

Name: Carbon Health Technologies, Inc.
Address: 2100 Franklin Street Suite 355, Oakland, 94612, California, USA

1.2 MANUFACTURER

Name: Carbon Health Technologies, Inc.
Address: 2100 Franklin Street Suite 355, Oakland, 94612, California, USA

1.3 FACTORY

Name: Guangdong Transtek Medical Electronics Co., Ltd.
Address: Zone A, No 105, Dongli Road, Torch Development District, 528437 Zhongshan, Guangdong, China

1.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: LogBand
Model No.: CH-M1-11
Adding Model: /
Trade Name: /
FCC ID: 2A7WWCH-M1-11
Power Supply: 3.8Vdc supplied by an internal rechargeable Li-ion battery.
DC 5V supplied by USB type A port
Battery Specification: Model: 311013
Nominal Voltage: 3.8Vdc
Rated Capacity: 23mAh, 0.09Wh
Frequency Band: 2402MHz-2480MHz
Transmit Power: -0.06dBm
Modulation type: GFSK
Antenna Specification: Internal antenna with -10.35dBi gain (Max)
Temperature Range: 0°C ~ +40°C
Hardware Version: TMP-2281-V2
Software Version: T011
Sample No: E20220906368001-0001, E20220906368001-0003
Note: /

2. LABORATORY & ACCREDITATIONS

2.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

Add.: No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District Shenzhen, 518110, People's Republic of China.

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2.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:2017.

USA A2LA(Certificate #2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada ISED (Company Number: 24897, CAB identifier:CN0069)

USA FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.grgtest.com>

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3. LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

According to the KDB 447498 D04 Interim General RF Exposure Guidance v01:

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1 mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph § 1.1307(b)(3)(ii)(A).

The 1 mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

According Appendix B Exemptions for Single RF Sources, support an exemption from further evaluation from 300 kHz through 100 GHz. This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1). The example values shown in Table B.2 are for illustration only.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

4. ESTIMATION RESULT

4.1 MEASUREMENT RESULTS

Table 1 Antenna Specification

Frequency Band	Antenna type	Internal Identification	Maximum antenna gain (dBi)
BLE	Internal antenna	Antenna 1	-10.35

Table 2 Transmit Power

Frequency Band	Maximum Output Power (dBm)	Target power (dBm)	Tolerance (dB)	Maximum Tune-up Output power (dBm)
BLE	-0.06	0	±1	1.00

STANDALONE MPE

Mode	Frequency (MHz)	Maximum Tune-up Output power (dBm)	Maximum Tune-up Output power (mW)	Exemption Limit (mW)	Verdict
BLE	2480	1.00	1.2589	2.72	PASS

Remark:

1. d = the separation distance (cm), devices use with a distance of less than 0.5cm are calculated as 0.5cm

2. Threshold P_{th} (mW) = $3060 \left(\frac{0.5}{20}\right)^{-\log_{10}\left(\frac{60}{3060 \times \sqrt{2.48}}\right)} = 2.72\text{mW}$

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5. CONCLUSION

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure of portable device.

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