# SAR Evaluation Report

| | |
|---|---|
| **Application No.:** | SZEM1908016994CR |
| **Applicant:** | Shenzhen Breo Technology Co., Ltd |
| **Address of Applicant:** | 19/F Hisense Southen Buiding, 1777ChuangYe Road, NanShan District, SZ, China |
| **Manufacturer:** | Shenzhen Breo Technology Co., Ltd |
| **Address of Manufacturer:** | 19/F Hisense Southen Buiding, 1777ChuangYe Road, NanShan District, SZ, China |
| **Factory:** | Shenzhen Breo Technology Co., Ltd |
| **Address of Factory:** | 19/F Hisense Southen Buiding, 1777ChuangYe Road, NanShan District, SZ, China |
| **Equipment Under Test (EUT):** | |
| **EUT Name:** | Neck Massager |
| **Model No.:** | iNeck 3Pro, iNeck 3Pro-a, iNeck 3Pro-b, iNeck 3Pro-c, iNeck 3Pro-d, neck 4a ♣ |
| ♣ | Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical. |
| **FCC ID:** | PXUINECK3PRO |
| **Standards:** | 47 CFR Part 1.1307<br>47 CFR Part 2.1093<br>KDB447498D01 General RF Exposure Guidance v06 |
| **Date of Receipt:** | 2019-08-01 |
| **Date of Test:** | 2019-08-02 to 2019-08-15 |
| **Date of Issue:** | 2019-09-10 |
| **Test Result :** | **PASS*** |

* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu
EMC Laboratory Manager

# 2 Version

| Revision Record | | | | |
|---|---|---|---|---|
| **Version** | **Chapter** | **Date** | **Modifier** | **Remark** |
| 01 | | 2019-09-10 | | Original |
| | | | | |
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|---|---|---|---|---|
| **Authorized for issue by:** | | | | |
| | | Bill Chen | | |
| | | **Bill Chen /Project Engineer** | | |
| | | Eric Fu | | |
| | | **Eric Fu /Reviewer** | | |

# 3 Contents

# 4 General Information

## 4.1 General Description of EUT

| | |
|---|---|
| Power supply: | Adapter Power：<br>Model：A18A-050100U-US2<br>Input：AC100-240V 50/60Hz 0.2A<br>Output：DC 5V 1.0A<br>Rechargeable battery：DC 3.7V 4.26Wh(Charge by USB)<br>Rechargeable battery：DC 3.7V 2300mAh 8.51Wh(Charge by USB) |
| Cable: | USB cable：77cm unshielded |
| **For BT** | |
| Operation Frequency: | 2402MHz to 2480MHz |
| Bluetooth Version: | V4.2 Dual mode(This test report is for classic mode.) |
| Spectrum Spread Technology: | Frequency Hopping Spread Spectrum(FHSS) |
| Modulation Type: | GFSK, π/4DQPSK, 8DPSK |
| Sample Type: | Portable production |
| Number of Channels: | 79 |
| Channel Spacing: | 1MHz |
| Antenna Type: | Chip Antenna |
| Antenna Gain: | 0dBi |
| **For BLE** | |
| Operation Frequency: | 2402MHz to 2480MHz |
| Bluetooth Version: | V4.2 Dual mode(This test report is for BLE mode.) |
| Modulation Type: | GFSK |
| Sample Type: | Portable production |
| Number of Channels: | 40 |
| Channel Spacing: | 2MHz |
| Antenna Type: | Chip Antenna |
| Antenna Gain: | 0dBi |

**Remark:**

Model No.: iNeck 3Pro, iNeck 3Pro-a, iNeck 3Pro-b, iNeck 3Pro-c, iNeck 3Pro-d, neck 4a

Only the model iNeck 3Pro was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on appearance colour and model name.

## 4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057
Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594
No tests were sub-contracted.

## 4.3 Test Facility

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

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 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. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

## 4.4 Deviation from Standards

None.

## 4.5 Abnormalities from Standard Conditions

None.

## 4.6 Other Information Requested by the Customer

None.

# 5 SAR Evaluation

## 5.1 RF Exposure Compliance Requirement

### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

### 5.1.2 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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation[17]

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

### 5.1.3 EUT RF Exposure

For BT:

The Max. power (including tune-up tolerance) is 1.27 dBm on the lowest channel 2.402 GHz (*)

1.27 dBm logarithmic terms convert to numeric result is nearly 1.34 mW

According to the formula. calculate the test exclusion thresholds:

$$General\ RF\ Exposure = \frac{(Max.\ Power\ of\ channel, including\ tune-up\ tolerance, mW) * \sqrt{f\ (GHz)}}{(min.\ test\ separation\ distance, mm)}$$

$$General\ RF\ Exposure = (1.34\ mW / 5\ mm)\ x\ \sqrt{2.402\ GHz} = 0.42 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM190801699402



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For BLE:

The Max. power (including tune-up tolerance) is 2.10 dBm on the lowest channel 2.402 GHz (*)

2.10 dBm logarithmic terms convert to numeric result is nearly 1.62 mW

According to the formula. calculate the test exclusion thresholds:

$$General\ RF\ Exposure = \frac{(Max.\ Power\ of\ channel, including\ tune-up\ tolerance, mW) * \sqrt{f\ (GHz)}}{(min.\ test\ separation\ distance, mm)}$$

$$General\ RF\ Exposure = (1.62\ mW / 5\ mm)\ x \sqrt{2.402\ GHz} = 0.50 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM190801699403

- End of the Report -