



Report No.: SZEM190201089502

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## SAR Evaluation Report

**Application No.:** SZEM1902010895CR  
**Applicant:** Harman International Industries, Inc.  
**Address of Applicant:** 8500 Balboa Boulevard, Northridge, California, 91329, United States  
**Manufacturer:** Harman International Industries, Inc.  
**Address of Manufacturer:** 8500 Balboa Boulevard, Northridge, California, 91329, United States  
**Equipment Under Test (EUT):**  
**EUT Name:** BLUETOOTH HEADSET  
**Model No.:** REFLECT FLOW  
**FCC ID:** APIREFLECTFLOW  
**Trade mark:** JBL  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2019-02-02  
**Date of Test:** 2019-02-14 to 2019-02-15  
**Date of Issue:** 2019-03-22

|                      |              |
|----------------------|--------------|
| <b>Test Result :</b> | <b>Pass*</b> |
|----------------------|--------------|

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

Keny Xu

Keny Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch EMC Laboratory

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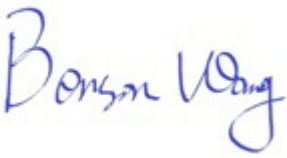
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## 2 Version

| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2019-03-22 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |  |                                                                                     |  |
|--------------------------|--|-------------------------------------------------------------------------------------|--|
| Authorized for issue by: |  |                                                                                     |  |
|                          |  |   |  |
|                          |  | <b>Benson Wang /Project Engineer</b>                                                |  |
|                          |  |  |  |
|                          |  | <b>Eric Fu /Reviewer</b>                                                            |  |



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## 4 General Information

### 4.1 General Description of EUT

|                             |                                                                                                                                                                                                                                              |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply:               | Left earbuds: Li-Ion Polymer Battery 3.7V 110mAh (Charge by charging case)<br>Right earbuds: Li-Ion Polymer Battery 3.7V 110mAh (Charge by charging case)<br>Charging case battery: Li-Ion Polymer Battery 3.7V 850mAh (Charged by USB port) |
| Cable:                      | Usb cable: 26cm unshielded                                                                                                                                                                                                                   |
| Operation Frequency:        | 2402MHz to 2480MHz                                                                                                                                                                                                                           |
| Bluetooth Version:          | V5.0 Classic                                                                                                                                                                                                                                 |
| Spectrum Spread Technology: | Frequency Hopping Spread Spectrum(FHSS)                                                                                                                                                                                                      |
| Modulation Type:            | GFSK, $\pi/4$ DQPSK, 8DPSK                                                                                                                                                                                                                   |
| Number of Channels:         | 79                                                                                                                                                                                                                                           |
| Channel Spacing:            | 1MHz                                                                                                                                                                                                                                         |
| Antenna Gain:               | Left earbuds:0.71dBi; Right earbuds:-0.06dBi                                                                                                                                                                                                 |
| Antenna Type:               | Integral Antenna                                                                                                                                                                                                                             |



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## 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.



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## 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  $\leq 50$  mm are determined by:

$$\left[ \frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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

Left and Right earbuds:

The Max. power (including tune-up tolerance) 8.50 dBm on the middle channel 2.441 GHz (\*)  
8.50 dBm logarithmic terms convert to numeric result is nearly 7.08 mW

According to the formula, calculate the test exclusion thresholds:

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

$$\text{General RF Exposure} = (7.08 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.441 \text{ GHz}} = 2.21 \quad (1)$$

SAR requirement:

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

$$(1) < (2)$$

So the SAR report is not required.

- End of the Report -

