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Report No.: SZEM141100656502  
Page: 1 of 7

## SAR Evaluation Report

**Application No:** SZEM1411006565CR  
**Applicant:** DEI Sales Inc. dba Definitive Technology  
**Manufacturer:** Definitive Technology  
**Factory:** Merry Electronics (Shenzhen) Co., Ltd.  
**Product Name:** Wireless Bluetooth over-ear headphone  
**Model No.(EUT):** HPNC  
**Trade mark:** Definitive Technology  
**FCC ID:** IPU-HPNC  
**Standards:** 47 CFR Part 1.1307(2014)  
47 CFR Part 2.1093 (2014)  
KDB447498D01 General RF Exposure Guidance v05  
**Date of Receipt:** 2014-12-02  
**Date of Test:** 2014-12-04 to 2015-01-08  
**Date of Issue:** 2015-01-09

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

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

Authorized Signature:



Jack Zhang  
EMC Laboratory 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.

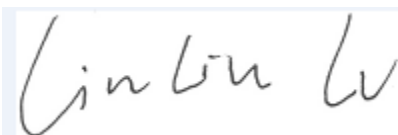
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## 2 Version

| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 00              |         | 2015-01-09 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |                                                                                                                    |                    |  |
|--------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------|--|
| Authorized for issue by: |                                                                                                                    |                    |  |
| Tested By                | <br>(Eric Fu) /Project Engineer | 2015-01-08<br>Date |  |
| Prepared By              | <br>(Linlin Lv) /Clerk         | 2015-01-09<br>Date |  |
| Checked By               | <br>(Kevin Feng) /Reviewer     | 2015-01-15<br>Date |  |



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## 4 General Information

### 4.1 Client Information

|                          |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|
| Applicant:               | DEI Sales Inc. dba Definitive Technology                                          |
| Address of Applicant:    | One Viper Way Vista, California 92081                                             |
| Manufacturer:            | Definitive Technology                                                             |
| Address of Manufacturer: | 11433 Cronridge Drive Owings Mills, MD 21117                                      |
| Factory:                 | Merry Electronics (Shenzhen) Co., Ltd.                                            |
| Address of Factory:      | Merry Industrial Park, #484 Hua Rong Rd., Da-Lang, Bao-An, ShenZhen 518109, China |

### 4.2 General Description of EUT

|                       |                                         |                                              |
|-----------------------|-----------------------------------------|----------------------------------------------|
| Product Name:         | Wireless Bluetooth over-ear headphone   |                                              |
| Model No.:            | HPNC                                    |                                              |
| Trade mark:           | Definitive Technology                   |                                              |
| Operation Frequency:  | 2402MHz~2480MHz                         |                                              |
| Bluetooth Version:    | 3.0 with EDR                            |                                              |
| Modulation Technique: | Frequency Hopping Spread Spectrum(FHSS) |                                              |
| Modulation Type:      | GFSK, $\pi/4$ DQPSK, 8DPSK              |                                              |
| Number of Channel:    | 79                                      |                                              |
| Hopping Channel Type: | Adaptive Frequency Hopping systems      |                                              |
| Sample Type:          | Portable production                     |                                              |
| EUT Function:         | Wireless bluetooth over-ear headphone   |                                              |
| Test software of EUT: | Blue test 3 (manufacturer declare)      |                                              |
| Test Power Grade:     | 100,30 (manufacturer declare )          |                                              |
| Antenna Type:         | Integral                                |                                              |
| Antenna Gain:         | 3dBi                                    |                                              |
| Power Supply:         | USB charge 5V 500mA                     |                                              |
|                       | Battery :                               | DC 3.7V 900mAh (Li-ion Rechargeable Battery) |
| Test Voltage:         | AC 120V 60Hz                            |                                              |
| Aux in Cable :        | 100cm (Unshielded)                      |                                              |
| USB Cable:            | 200cm (Unshielded)                      |                                              |



### **4.3 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

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.

### **4.4 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.

- **VCCI**

The 10m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen 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 No.: 556682.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1 & 4620C-2.

### **4.5 Deviation from Standards**

None.

### **4.6 Abnormalities from Standard Conditions**

None.

### **4.7 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 v05

##### 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:

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

$f(\text{GHz})$  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

The Max Conducted Peak Output Power is 3.78dBm in highest channel(2.402GHz);

The best case gain of the antenna is 3dBi.

$\text{EIRP} = 3.78\text{dBm} + 3\text{dBi} = 6.78\text{dBm}$

6.78dBm logarithmic terms convert to numeric result is nearly 4.7643mW

According to the formula. calculate the EIRP test result:

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

General RF Exposure =  $(4.7643\text{mW} / 5 \text{ mm}) \times \sqrt{2.402\text{GHz}} = 1.4768$  ①

SAR requirement:

$S = 3.0$

② ;

① < ②.

So the SAR report is not required.



## **6 Photographs - EUT Constructional Details**

Refer to Report No. SZEM141100656501 for EUT external and internal photos.