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Report No.: SZEM130100044502
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SAR Evaluation Report

Application No.: SZEM1301000445RF
Applicant: Honey Bee (Hong Kong) Ltd.
Manufacturer: Honey Bee (Hong Kong) Ltd.
Factory: Shantou S.E.Z. Honey Bee Electronics Co., Ltd.
Product Name: Personal Audio Enhancer Base Unit
Model No.(EUT): HB-1202
FCC ID: S9X-PAE-300
Standards: 47 CFR Part 1.1307(2011)
47 CFR Part 2.1093 (2011)
KDB447498D01 General RF Exposure Guidance v05
Date of Receipt: 2013-01-25
Date of Test: 2013-02-04 to 2013-02-21
Date of Issue: 2013-04-14

Test Result :	PASS*
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* 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.

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. All test results in this report can be traceable to National or International Standards.

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3 General Information

3.1 Client Information

Applicant:	Honey Bee (Hong Kong) Ltd.
Address of Applicant:	Flat L, 12/F, Phase 4, Kwun Tong Industrial Centre, 436-446 Kwun Tong Road, Kowloon, Hong Kong
Manufacturer:	Honey Bee (Hong Kong) Ltd.
Address of Manufacturer:	Flat L, 12/F, Phase 4, Kwun Tong Industrial Centre, 436-446 Kwun Tong Road, Kowloon, Hong Kong
Factory:	Shantou S.E.Z. Honey Bee Electronics Co., Ltd.
Address of Factory:	5/F, Block 3, Zhu Hua Industrial Zone, Li Shui Zhuang Zhong Qu, Long Hu Qu Shantou City, Guangdong Province, China

3.2 General Description of EUT

Product Name:	HB-1202
Model No.:	Honey Bee (Hong Kong) Ltd.
Trade Mark:	VitaSound
Operation Frequency:	2403-2477MHz
Channel Numbers:	75
Channel Separation:	1MHz
Type of Modulation:	GFSK
Test Software of EUT:	C/S:9C25
Sample Type:	Fixed production
Antenna Type:	PCB Antenna
Antenna Gain:	1.0dBi
Power Supply:	MODEL No:UE24WU-090200SPA PART No:UE120901DGMF01-R INPUT:100-240V~50/60Hz,600mA OUTPUT: 9.0V --- 2.0A
Test Voltage:	AC 120V 60Hz
AC Cable:	180cm
RCA Cable:	150cm

3.3 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.

3.4 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 3m Semi-anechoic chamber, Full-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.: R-2197, G-416, 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)**
The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.





4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

15.247(b)(4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6dBi. Except as shown in paragraph (c) of this section. if transmitting antennas of directional gain greater than 6dBi are used. the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1). (b)(2). and (b)(3) of this section. as appropriate. by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.1.2 Limits

According to KDB447498D01 General RF Exposure Guidance v05

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:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16} \text{ where}$$

$f(\text{GHz})$ 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

4.1.3 EUT RF Exposure

The Max Conducted Output Power is 4.5dBm in highest channel(2.477GHz);

The best case gain of the antenna is 1.0dBi.

EIRP= 4.5dBm + 1.0dBi = 5.5dBm

5.5dBm logarithmic terms convert to numeric result is nearly 3.548mW

According to the formula. calculate the EIRP test result:

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

General RF Exposure = $(3.548\text{mW} / 5 \text{ mm}) \times \sqrt{2.477\text{GHz}} = 1.117$ ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.