

Report No.: GZEM201201756003

Page: 1 of 8

FCC ID: PVB-EMJE131

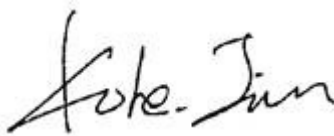
FCC ID: PVB-EMJE131R

RF Exposure Evaluation Report

Application No.: GZEM2012017560CR
Applicant: The House of Marley. LLC
Address of Applicant: 3000 Pontiac Trail, Commerce Township, Michigan 48390 United States
Manufacturer: The House of Marley. LLC
Address of Manufacturer: 3000 Pontiac Trail, Commerce Township, Michigan 48390 United States
Factory:
 1. Dongguan Kailai Electronic Co., Ltd
 2. YING TONG (VIETNAM) ELECTRONIC TECHNOLOGY COMPANY LIMITED
Address of Factory:
 1. Second Building, No. 6, Changping baisha Road, Changping Town, Dongguan City, Guangdong Province
 2. Plot No. CN02-1-2, Lot No. CN02, Binh Xuyen II Industrial Park, Ba Hien Commune, Binh Xuyen District, Vinh Phuc Province, Vietnam
Equipment Under Test (EUT):
EUT Name: Champion
Model No.: EM-JE131
 EMJE131L for left earbuds, EMJE131R for right earbuds
FCC ID: PVB-EMJE131 (for left earbud), PVB-EMJE131R (for right earbud)
Trade Mark: MARLEY
Standard(s) :
 47 CFR Part 2.1093
 47 CFR Part 1.1307
 KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2020-12-24
Date of Test: 2020-01-05 to 2021-01-22
Date of Issue: 2021-02-02

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Kobe Jian
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2021-02-02		Original

Authorized for issue by				
Tested By		 Curry Wu/Project Engineer		
Reviewed By		 Ricky Liu/Reviewer		



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3 General Information

3.1 Details of E.U.T.

Rated voltage:	DC 5V&DC 3.6V
Battery:	DC 3.6V rechargeable battery
Power supply:	DC 3.6V for working DC 5V charging by adaptor
Cable(s):	about 30cm unscreened USB cable
Antenna Gain	-3.79 dBi declared by applicant
Antenna Type:	Integra Antenna
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum (FHSS)
Channel Spacing:	1MHz
Number of Channels:	79
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation Frequency:	2402MHz to 2480MHz
Software version	V5.0
Hardware version	V3.0
Setting software:	BQB.exe
Power Setting:	3 dBm can not be changed by the user

3.2 Description of Support Units

The EUT has been tested as an independent unit.

3.3 Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory,
 198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
 Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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3.4 Facility

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

- **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

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.

- **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

- **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

- **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., 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 282399, May 31, 2002.

- **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

- **Industry Canada (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

- **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-10449 and T-11179 respectively.

- **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2017, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



3.5 Deviation from Standards

None

3.6 Abnormalities from Standard Conditions

None



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4 RF Exposure Compliance Requirement

The product belongs to **standalone portable device** base the FCC rule part 2.1091&2.1093. The transmission frequencies of the device are between 100 MHz and 6 GHz. The worst case test separation distance is **5mm**.

The Max Conducted Output Power and SAR Test Exclusion Threshold (mW) are listed below:

Right:

The Max Conducted Peak Output Power **2.93** dBm on the lowest channel **2.41** GHz

2.93 dBm logarithmic terms convert to numeric result is nearly 1.96 mW

According to the formula. calculate the test exclusion thresholds:

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

General RF Exposure = $(1.96 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.41 \text{ GHz}} = 0.61$ (1)

SAR requirement:

$S = 3.0$ (2)

$(1) < (2)$

So the SAR report is not required.

Left:

The Max Conducted Peak Output Power **2.96** dBm on the lowest channel **2.441** GHz

2.96 dBm logarithmic terms convert to numeric result is nearly 1.98 mW

According to the formula. calculate the test exclusion thresholds:

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

General RF Exposure = $(1.98 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.441 \text{ GHz}} = 0.62$ (1)

SAR requirement:

$S = 3.0$ (2)

$(1) < (2)$

So the SAR report is not required.

The SAR Test Exclusion Threshold for 100 MHz to 6 GHz is calculated from:

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances $\leq 50 \text{ mm}$ are determined by:

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

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

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

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is $\leq 50 \text{ mm}$ and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is $< 5 \text{ mm}$, a distance of 5 mm is applied to determine SAR test exclusion.

According to SAR Exclusion Threshold in KDB 447498 (D01) General RF Exposure Guidance v06, the SAR report is not required.



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5 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for GZEM2012017560CR

- End of the Report -



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