



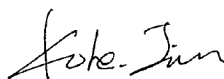
RF EXPOSURE EVALUATION REPORT

Application No.: GZCR2109021120AT
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. Building 2, No.6, Baisha Road, Changping, Dongguan City, Guangdong Province, China
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: REDEMPTION ANC2
Model No.: EM-DE031
Trade Mark: MARLEY
Standard(s) : 47 CFR Part 1.1307
KDB 680106 D01
Date of Receipt: 2021-09-22
Date of Evaluation: 2021-09-27 to 2021-10-29
Date of Issue: 2021-11-04

Evaluation Result:

Pass*

* In the configuration evaluated, 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		2021-11-04		Original

Authorized for issue by				
		Jackson Yuan		
		Jackson Yuan/Project Engineer		
		Ricky Liu		
		Ricky Liu/Reviewer		

2 Evaluation Summary

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
RF Exposure	47 CFR PART 1, Subpart I, Section 1.1310	KDB 680106 D01	CFR 47 Part 1.1310	Pass

Note:

E.U.T./EUT means Equipment Under Test.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

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4 General Information

4.1 Details of E.U.T.

Power supply:	Powered by built-in battery as below for normal working of earbud: Model: LIR 1154 Powered by built-in battery as below for normal working of charger Model: NV 901638 Rated: DC 3.7 V, 1.924Wh 520mAh DC 5 V for charging of charger
Cable(s):	DC output ports Type C changing ports with unshielded cables (0.4 m)
Firmware Version:	SV01
Hardware Version:	EPA262-VCHG-V7
Testing Software:	N/A
Sample NO.:	GZ_SP_20210954424
Power Setting:	Default
Function:	REDEMPTION ANC2 with dual mode BT function and WPC function
Operation Frequency:	113.8334 to 145.9804 kHz
Modulation Type:	Load modulation
Antenna Type:	Loop antenna

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
AC/DC Adapter	YUEWEI	YW-2440 (Input: AC100-230V, 50Hz; Output: DC5V, Max. 4A)	CE02
Wireless Charging Pad	SAMSUNG	EP-1100	RF7M506VG3ZCIS

4.3 Measurement Uncertainty

Test Item	Measurement Uncertainty
RF Exposure Evaluation	MF: U=0.13dB, EF: U=0.4dB

4.4 Evaluating 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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4.5 Facility

The 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/New Zealand Regulatory Compliance Mark (RCM).

- **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 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.

- **ISED (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-20107 and T-11179)**

The 10m Semi-anechoic chamber, 966 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-20107 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.



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4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None



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5 Equipment List

RF Exposure Evaluation					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
743 Compact 3m Semi-Anechoic Chamber	ChangZhou ZhongYu	N/A	EMC0525	2019-10-20	2022-10-19
Electric and Magnetic Field Analyzer	Narada	NBM-550 EHP-50F	EMC2143	2020-01-07	2022-01-06

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DMM	Fluke	73	EMC0006	2021-07-05	2022-07-05
DMM	Fluke	73	EMC0007	2021-07-05	2022-07-05



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6 Radio Spectrum Matter Test Results

6.1 RF Exposure

6.1.1 Test Requirement:

CFR 47 Part 1.1310

Limit:

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in Part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30
f = frequency in MHz				
* = Plane-wave equivalent power density				

According to IEEE C95.3:2002 section 5.5.1.1, The power density S at a point on the axis at a distance d from a transmitting antenna is given by the Friis free-space transmission formula

$$S = \frac{PG}{4\pi d^2}$$

S = power density (mW/cm²)
P = the net power delivered to the antenna (mW)
G = gain of the antenna in linear scale
d = distance between observation point and center of the radiator (cm)



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6.1.2 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 52 % RH Atmospheric Pressure: 1015 mbar

EUT Operation:

The device has been tested with wireless charging pad at zero charge, intermediate charge, and full charge.

6.1.3 Measurement Data

The EUT has been charging at zero charge, intermediate charge, and full charge.

Electric Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50 % Limit (V/m)
			zero charge	intermediate charge	full charge	
131.390kHz which is the worst case within the operation frequency range	15	Side 1	7.497	6.526	7.507	307
		Side 2	6.480	7.910	6.099	
		Side 3	7.943	7.977	6.522	
		Side 4	7.177	6.281	6.051	
		Top	6.803	7.428	7.213	

Magnetic Field Emissions

Operation frequency	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50 % Limit (A/m)
			zero charge	intermediate charge	full charge	
131.390kHz which is the worst case within the operation frequency range	15	Side 1	0.560	0.641	0.380	0.815
		Side 2	0.651	0.674	0.607	
		Side 3	0.326	0.499	0.673	
		Side 4	0.524	0.497	0.532	
		Top	0.604	0.542	0.343	



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7 Test Setup Photo

Refer to Test Setup Photo for GZCR210902112009.

8 EUT Constructional Details (EUT Photos)

Refer to External and Internal Photos for GZCR2109021120AT

- End of the Report -