

# RF Exposure Report

Report No.: AGC09477240910FH01

FCC ID : 2AMZY-CHARGER

**APPLICATION PURPOSE**: Original Equipment

**PRODUCT DESIGNATION**: 3 in 1 wireless charger

**BRAND NAME** : Origaudio

MODEL NAME : 34020

**APPLICANT** : HandStandsPromo LLC

**DATE OF ISSUE** : Nov. 06, 2024

STANDARD(S) : KDB680106 D01 RF Exposure Wireless Charging Base App

v04

**REPORT VERSION** : V1.

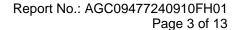
Attestation of Global Compliance (Shenzhen) Co., Ltd



Page 2 of 13

# **Report Revise Record**

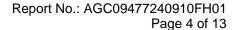
Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Nov. 06, 2024	Valid	Initial Release





# **Table of Contents**

1. General Information	4
2. Product Information	5
2.1 Product Technical Description	5
3. Test Environment	
3.1 Address of The Test Laboratory	6
3.2 Test Facility	
3.3 Environmental Conditions	7
3.4 Measurement Uncertainty	7
3.5 List of Equipment Used	7
4. Equipment Used in Tested System	8
5. Description of Test Modes	
6. RF Exposure Measurement	9
6.1 Refer Evaluation Method	9
6.2 Measurement Limits	9
6.3 Measurement Setup	
6.4 Measurement Procedure	
6.5 Measurement Results	12
Appendix I: Photographs of Test Setup	





# 1. General Information

Applicant	HandStandsPromo LLC
Address	1770 South 5350 West Suite 100, Salt Lake City, Utah, 84104, USA
Manufacturer	E-trends Electronic Co., Ltd
Address	No.9 Building, Huixin Industrial Park, Yangwu village, Dalingshan Town, Dongguan, Guangdong.
Factory	E-trends Electronic Co., Ltd
Address	No.9 Building, Huixin Industrial Park, Yangwu village, Dalingshan Town, Dongguan, Guangdong.
Product Designation	3 in 1 wireless charger
Brand Name	Origaudio
Test Model	34020
Series Model(s)	N/A
Difference Description	N/A
Date of receipt of test item	Sep. 25, 2024
Date of Test	Sep. 25, 2024 – Nov. 06, 2024
Deviation from Standard	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Test Report Form No	AGCER-FCC-RF Exposure (WPT_MPE)-V1

Note: The test results of this report relate only to the tested sample identified in this report.

Prepared By	Bibo zhang	
_	Bibo Zhang (Project Engineer)	Nov. 06, 2024
Reviewed By	Calin Lin	
	Calvin Liu (Reviewer)	Nov. 06, 2024
Approved By	Max Zhang	
_	Max Zhang Authorized Officer	Nov. 06, 2024



# 2. Product Information

# 2.1 Product Technical Description

Equipment Specification	WPT
Operation Frequency	WPT Band I: 110.5kHz-205kHz WPT Band II: 110.5kHz-205kHz WPT Band III: 320kHz-365kHz
Hardware Version	V1.0
Software Version	V1.3
Modulation Type	ASK
Field Strength of Fundamental	68.53dBuV/m (Max)
Antenna Designation	Coil Antenna
Antenna Gain	0dBi
EUT Power Supply	DC 3.8V battery
Input Rating	Input: DC 5V3A, 9V2A
Output Rating	Output 1: MPP Charger 15W Max Output 2: Qi Charger 5W Max Output 3: Wireless Charging 3W Max.
Adapter Information	N/A



Page 6 of 13

#### 3. Test Environment

## 3.1 Address of The Test Laboratory

Laboratory: Attestation of Global Compliance (Shenzhen) Co., Ltd.

Address: 1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

#### 3.2 Test Facility

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

# CNAS-Lab Code: L5488

Attestation of Global Compliance (Shenzhen) Co., Ltd. has been assessed and proved to FOLLOW CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories.)

#### A2LA-Lab Cert. No.: 5054.02

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to follow ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

# FCC-Registration No.: 975832

Attestation of Global Compliance (Shenzhen) 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 with Registration 975832.

### IC-Registration No.: 24842 (CAB identifier: CN0063)

Attestation of Global Compliance (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the Certification and Engineering Bureau of Industry Canada. The acceptance letter from the IC is maintained in our files with Registration 24842.



Page 7 of 13

### 3.3 Environmental Conditions

	Normal Conditions
Temperature range (°C)	15 - 35
Relative humidity range	20% - 75%
Pressure range (kPa)	86 - 106
Power supply	

# 3.4 Measurement Uncertainty

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

	3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
Item	Measurement Uncertainty
E-Field Strength(0.003-0.4MHz)	±1.5dB
E-Field Strength(0.4-10MHz)	±1.3dB
H-Field Strength(0.003-0.4MHz)	±1.3dB
H-Field Strength(0.4-10MHz)	±1.2dB

# 3.5 List of Equipment Used

Used	Equipment No.	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date (YY-MM-DD)	Next Cal. Date (YY-MM-DD)
$\boxtimes$	AGC-RF-011	Broadband Field Meter	WAVECONTROL	SMP2	J-0004	2024-06-06	2025-06-05
$\boxtimes$	AGC-RF-012	Probe FHP	WAVECONTROL	WP400	J-0015	2024-06-06	2025-06-05



Page 8 of 13

# 4. Equipment Used in Tested System

The following peripheral devices and interface cables were connected during the measurement:

☐ Test Accessories Come From The Laboratory

			<u>-</u>		
No	Equipment	Model No.	Manufacturer	Specification Information	Cable
1	Mobile Phone	MI 10	Xixomi		
2	Watch	L-SWAW101	Lenovo		
3	Wireless Headset	S6S Pro	SANAG		
4	Adapter	Huawei	HW-200440C0 0	Input(AC):100V-240V 50/60Hz 2.4A Output(DC):USB-C(5V/3A;9V/3A;10V/4A;11V/6A; 12V/3A;15V/3A;20V4.4A) USB-A(5V/2A;10V/4A;11V/6A;20V/4.4A)	

Test Accessories Come From The Manufacturer

No.	Equipment	Model No.	Manufacturer	Specification Information	Cable
1				1	

# 5. Description of Test Modes

NO.	Test Mode Description	Exposure Conditions			
1	EUT stand alone, standby, powered by AC/DC adapter.	Mobile			
2	Direct contact during charging/operating between the EUT& WPT Client, EUT is powered by AC/DC adapter.  (1st coil: Xiaomi Phone@110.5-205kHz)	Mobile			
3	Direct contact during charging/operating between the EUT& WPT Client, EUT is powered by AC/DC adapter.  (2 <sup>nd</sup> coil: Wireless Headphones 110.5-205kHz)	Mobile			
4	Direct contact during charging/operating between the EUT& WPT Client, EUT is powered by AC/DC adapter.  (3 <sup>rd</sup> coil: Legacy Apple Watch (Series 4,5)@320.6kHz)	Mobile			
5	Direct contact during charging/operating between the EUT& WPT Client, EUT is powered by AC/DC adapter.  (1st coil: Xiaomi Phone@110.5-205kHz)  Direct contact during charging/operating between the EUT& WPT Client, EUT is				
Note: All test modes were pre-tested, but we only recorded the worst case in this report.					

Page 9 of 13

# 6. RF Exposure Measurement

#### 6.1 Refer Evaluation Method

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

FCC KDB publication KDB680106 D01 RF Exposure Wireless Charging Apps v04: RF Exposure

Considerations for Low Power Consumer Wireless Power Transfer Applications

FCC CFR 47 part1 1.1310: Radiofrequency radiation exposure limits.

FCC CFR 47 part2 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

FCC CFR 47 part 18.107: Indusial, Scientific, and Medical Equipment.

#### **6.2 Measurement Limits**

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time		
Range(MHz)	Strength(V/m)	Strength(A/m)	(mW/cm²)	(minute)		
	Limits for Occupational/Controlled Exposure					
0.3-3.0	614	1.63	*100	6		
3.0-30	1842/f	4.89/f	*900/f²	6		
30-300	61.4	0.163	1.0	6		
300-1,500	/	/	f/300	6		
1,500-100,000	/	/	5	6		

#### Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency	Electric Field	Magnetic Field	Power Density	Averaging Time				
Range(MHz)	Strength(V/m)	Strength(A/m)	(mW/cm²)	(minute)				
Limits for General Population/Uncontrolled Exposure								
0.3-1.34	0.3-1.34 614		*100	30				
1.34-30	824/f	2.19/f	*180/f²	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

According to FCC KDB 680106 D01v04 Section 3. RF Exposure Requirements clause 3.2 the Emission-Limits in the frequency range from 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of CFR 47 – Section 1.1310 as following:

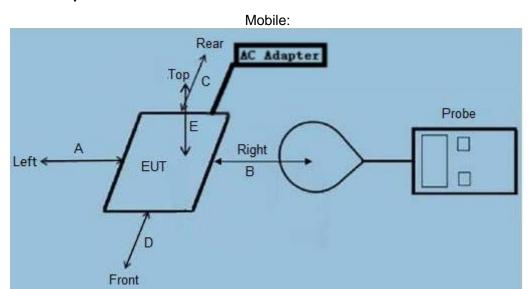
	E-Field	*/*	B-Field
Frequency	V/m	A/m	uT
0.3 MHz – 3.0 MHz	614	1.613	2.0
3.0 MHz – 30 MHz	824/f (=27.5 <sub>30MHz</sub> )	2.19/f (=0.073 <sub>30MHz</sub> )	

A KDB inquire was required to determine/confirm the applicable limits below 100kHz.

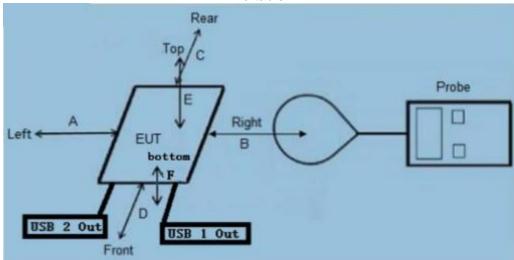
<sup>\*=</sup>Plane-wave equivalent power density



# 6.3 Measurement Setup







#### Note:

- -- RF exposure assessment tests are conducted in a shielded room.
- -- Refer to the following test method description for the test distance between the edge of the charger and the measuring probe.
- -- As shown in the above picture, the test layout is not for the real object, only the requirements of the test layout listed in the standard requirements are presented, for reference only.
- -- The actual test EUT distinguishes the test type according to the requirements as shown in the figure above.



Report No.: AGC09477240910FH01 Page 11 of 13

#### **6.4 Measurement Procedure**

# 6.4.1 For mobile RF exposure:

- a) The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- b) E-field and H-field measurements should be taken with the probe geometric center located 20cm around the EUT and 20cm above the top surface of the master/client pair.
- c) The highest emission level was recorded and compared with limit as soon as measurement of each point (A, B, C, D, E) were completed.
- d) The EUT were measured according to the dictates of KDB 680106 D01v04
- Equipment Approval Considerations of KDB 680106 D01v04

Requirements of KDB 680106	Yes or No	Description
The power transfer frequency is below 1 MHz	Yes	The device operate in the frequency range WPT Band I: 110.5kHz-205kHz WPT Band II: 110.5kHz-205kHz WPT Band III: 320kHz-365kHz
Output power from each primary coil is lessthan 15 watts	Yes	The maximum output power of the primary coil is 15W.
The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.	Yes	The transfer system includes three coil that is able to detect receiver device.
Client device is placed directly in contact withthe transmitter.	Yes	Client device is placed directly in contactwith the transmitter.
Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).	yes	Device can be used in Mobile conditions.
The aggregate H-field strengths at 20 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.	Yes	The EUT H-field strengths at 20 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested.	Yes	The device has three radiating structure and is tested at full load



Page 12 of 13

# 6.5 Measurement Results

#### Mobile devices are evaluated as follows:

Operate Mode	Field Strength	Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)					FCC Limit	50%_FCC
		Position A	Position B	Position C	Position D	Position E	PCC LIIIII	limit
Mode 2	nT	321.608	329.146	317.839	302.764	337.940		
Mode 2	A/m	0.256	0.262	0.253	0.241	0.269	1.63	0.815
Mode 2	V/m	0.349	0.356	0.254	0.246	0.285	614	307
Mode 3	nT	311.558	344.221	335.427	287.688	319.095		
Mode 3	A/m	0.248	0.274	0.267	0.229	0.254	1.63	0.815
Mode 3	V/m	0.386	0.374	0.359	0.415	0.452	614	307
Mode 4	nT	275.126	325.377	271.357	315.327	305.276		
Mode 4	A/m	0.219	0.259	0.216	0.251	0.243	1.63	0.815
Mode 4	V/m	0.395	0.387	0.418	0.425	0.451	614	307

Note: Unit conversion formula: 1A/m =1250\*Nt

# Multiple Frequency Summation:

Operate	Measured	Field	Measured H-Field Strength Values (A/m) Measured E-Field Strength Values (V/m)					
Mode	Distance (cm)	Strength	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Limit
Mode 5	20	(A/m) /90	0.8871	0.9755	0.9031	0.8847	0.9399	1
Mode 5	20	(V/m) /83	0.0037	0.0036	0.0034	0.0035	0.0039	1

## Note:

- 1.  $\sum (E_m/E_R) \le 1$  and  $\sum (H_m/H_{RL}) \le 1$
- 2. E<sub>m</sub> = Measured electric field at a specific frequency
- 3. E<sub>RL</sub> = Reference level limit for the electric field at the measurement frequency
- 4. H<sub>m</sub> = Measured magnetic field at a specific frequency
- 5. H<sub>RL</sub> = Reference level limit for the magnetic field at the measurement frequency



Page 13 of 13

# **Appendix I: Photographs of Test Setup**

Refer to the Report No.: AGC09477240910AP02

----End of Report----



# Conditions of Issuance of Test Reports

- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
- 2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
- 3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
- 4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
- 7.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
- 8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
- 9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.