Test Report

Report No.:	MTi240517001-02E2
Date of issue:	2024-05-29
Applicant:	Chug, Inc.
Product:	3-IN-1 WIRELESS TRAVEL CHARGER
Model(s):	ASWC93
FCC ID:	2AO23-ASWC93

Shenzhen Microtest Co., Ltd.

http:// Web: www.mtitest.cn

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Instructions

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2. The test results in this test report are only responsible for the samples submitted

3. This test report is invalid without the seal and signature of the laboratory.

4. This test report is invalid if transferred, altered, or tampered with in any form without authorization.

5. Any objection to this test report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

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Test Result Certification	
Applicant:	Chug, Inc.
Address:	7157 Shady Oak Road Eden Prairie Washington, MN 55344 United States
Manufacturer:	Chug, Inc.
Address:	7157 Shady Oak Road Eden Prairie Washington, MN 55344 United States
Factory1:	Shenzhen Aquilstar Technology Co., Ltd.
Address:	101 of B Building, B&C Building, No.1 Plant, Lingxia Road, Fenghuang Community, Fuyong Street, Bao'an District, Shenzhen City, China
Factory2:	AQUILSTAR TECHNOLOGY (VIET NAM) CO.,LTD
Address:	Hamlet Ve, Dong Tam Commune, Ninh Giang District, Hai Duong Province, Viet Nam.
Product description	
Product name:	3-IN-1 WIRELESS TRAVEL CHARGER
Trademark:	N/A
Model name:	ASWC93
Series Model:	N/A
Standards:	FCC CFR 47 PART 1, § 1.1310
Test method:	KDB 680106 D01 Wireless Power Transfer v04
Date of Test	
Date of test:	2024-05-23 to 2024-05-25
Test result:	Pass

Test Engineer	:	Maleah Deng
		(Maleah Deng)
Reviewed By	:	David. Lee
		(David Lee)
Approved By	:	Leon chen
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	3-IN-1 WIRELESS TRAVEL CHARGER
Model name:	ASWC93
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input: DC 5V3A, 9V3A Wireless Output: Phone: 5W,7.5W,10W; Earphone: 5W; Watch: 2.5W
Accessories:	Adaptor: Model: ASPD44a-P30P20 Input: 100-240V~,50/60Hz,1.0A MAX Output: 5.0Vdc, 3.0A / 9.0Vdc, 3.0A / 12.0Vdc, 2.5A /15.0Vdc, 2.0A / 20.0Vdc, 1.5A, PSS: 3.3-11Vdc, 2.75A 30W, Max Cable: USB-C to USB-C cable 100cm
Test sample(s) number:	MTi240517001-02S1001
RF specification:	
Operation frequency:	Transmitter1(Phone): 112-150Khz Transmitter2(Earphone): 112-150Khz Transmitter3(Watch): 320-330Khz
Modulation type:	ASK
Antenna type:	Coil Antenna

1.2 Description of test modes

All the test modes were carried out with the EUT in normal operation, the final test mode of the EUT was the worst test mode for emission test, which was shown in this report and defined as:

No.	Emission test modes
Mode1	Wireless output(5W)+Earphone(5W)+Watch(2.5W)
Mode2	Wireless output(7.5W)+Earphone(5W)+Watch(2.5W)
Mode3	Wireless output(10W)+Earphone(5W)+Watch(2.5W)
Mode4	Wireless output(5W)+Earphone(5W)
Mode5	Wireless output(7.5W)+Earphone(5W)
Mode6	Wireless output(10W)+Earphone((5W)
Mode7	Wireless output(5W)+Watch(2.5W)
Mode8	Wireless output(7.5W)+Watch(2.5W)
Mode9	Wireless output(10W)+Watch(2.5W)
Mode10	Earphone(5W)+Watch(2.5W)
Mode11	Wireless output(5W)
Mode12	Wireless output(7.5W)
Mode13	Wireless output(10W)
Mode14	Watch(2.5W)

Mode15	Earphone(5W)
Mode16	stand by

1.3 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list			
Description	Model	Serial No.	Manufacturer
Mobile phone	S9+	/	SAMSUNG
iWatch	iwatch 7	/	apple
Airpods	airpods 3	/	apple
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

Parameter	Expanded Uncertainty
Magnetic field measurements(3kHz~10MHz)	±14.8%
Electric field measurements(3kHz~10MHz)	±17.5%

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 Test facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
MTI-E143	Near-field Electric and Magnetic Field Sensor System	Speag	MAGPy-8H3D +ED3 V2	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.4	2.4.1	/	/

5 Test result

5.1.1 Requirement

§1.1310: 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 §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to §1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

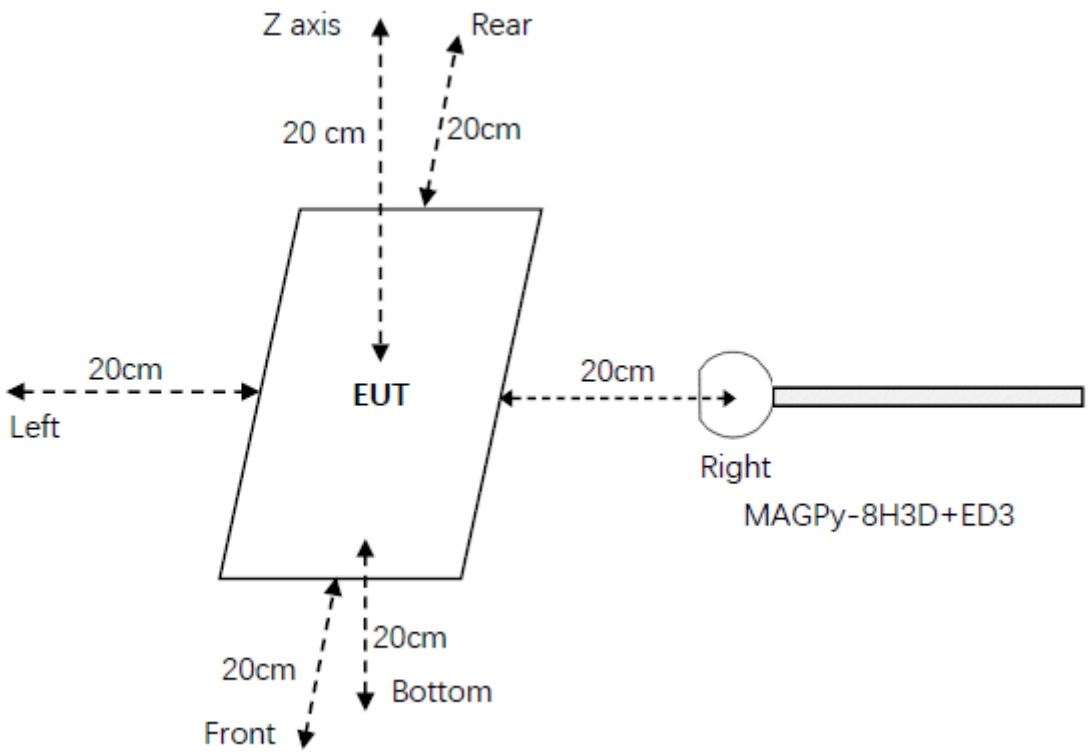
Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*($900/f^2$)	<6
30-300	61.4	0.163	1.0	<6
300-1500			f/300	<6
1500-100000			5	<6
(ii) 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
300-1500			f/1500	<30
1500-100000			1.0	<30

f = frequency in MHz
* = Plane-wave equivalent power density

Note 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

Note 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

5.2 Test setup



5.3 Test Procedures

a. The RF exposure test was performed in anechoic chamber.

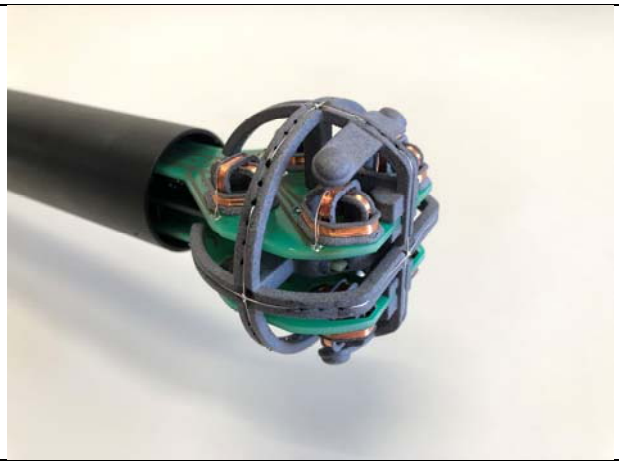
b. E and H-field measurements should be made with these devices considered to meet the § 2.1091-Mobile conditions (“generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and [the nearest person]”).

c. The highest emission level was recorded and compared with limit.

d. The EUT was measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.

5.4 Information of test equipment

Test equipment: MAGPy-8H3D+ED3	
Diameter	60mm
8 isotropic H-field sensors	Concentric loops of 1cm^2 arranged at the corner of a cube of 22mm side length
1 isotropic E-field sensor	Orthogonal dipole/monopple(arm length:50mm)
Measurement center	18.5mm from the probe tip
Dimensions	110*635*35mm (MAGPy-8H3D+E3D V2 & MAGPy-DAS V2)



Test probe, without the casing

5.5 Test results

Test condition 1: Mode 3 operating mode with client device (1 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	1.30	614	0.21%	0.10	1.63	11.04%
Left	1.23			0.10		
Right	0.90			0.05		
Front	0.70			0.04		
Rear	0.74			0.07		
bottom	0.68			0.18		

Test condition 2: Mode 3 operating mode with client device (50 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
Z axis	1.56	614	0.25%	0.21	1.63	12.88%
Left	1.34			0.17		
Right	0.99			0.07		
Front	0.83			0.08		
Rear	0.97			0.10		
Bottom	0.76			0.19		

Test condition 3: Mode 3 operating mode with client device (99 % battery status of client device)

Probe Position	E –field (V/m)			H–field (A/m)		
	Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
Z axis	1.39	614	0.23%	0.13	1.63	11.65%
Left	1.25			0.12		
Right	0.92			0.07		
Front	0.70			0.06		
Rear	0.74			0.06		
bottom	0.71			0.19		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----