TEST REPORT		
Report Number.....:	90686-23-72-23-PP002	
Date of issue.....:	2023-08-11	
Tested by (+signature).....:	Duke Chen	Duke Chen
Approved by (+signature).....:	Jason Gao	Jason gao
Testing Laboratory name.....:	SLG-CPC Testlaboratory Co., Ltd.	
Address.....:	No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117	
Applicant's name.....:	Adam Elements International Co., LTD.	
Address.....:	8F.-5, No.148, Sec. 4, Zhongxiao E Rd., Da'an Dist., Taipei City 106, Taiwan	
Manufacturer's name .....:	Power System Electronic Technology Co., Ltd.	
Address.....:	No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City, Guangdong, China	
Factory's name .....:	Power System Electronic Technology Co., Ltd.	
Address.....:	No.1 Shangbian Road, Puxin Industrial District, Shipai Town, Dongguan City, Guangdong, China	
Standard(s).....:	FCC Part 1(1.1310) and Part 2(2.1091), Part 2(2.1093) KDB 680106 D01 RF Exposure Wireless Charging App v03r01	
Test item description.....:	Magnetic Power Bank with Foldable Stand	
Trade Mark.....:	ADAM elements	
Model/Type reference.....:	GRAVITY CS10, GRAVITY CS5	
FCC ID.....:	2ABY9GRAVITY-CS10	
Date of receipt of test item....:	July 19, 2023	
Date (s) of performance of test.....:	July 19, 2023--July 25, 2023	
Summary of Test Results.....:	**Pass**	
The Summary of Test Results based on a technical opinion belongs to the standard(s).		
General disclaimer: This report shall not be reproduced except in full, without the written approval of SLG-CPC Testlaboratory Co., Ltd. The test results in the report only apply to the tested sample.		

Address:No.11,WuSongRoad,
DongchengDistrict,Dongguan,
GuangdongProvince,China523117
Tel: 86-769-22607797
Fax: 86-769-22607907
http://www.cpcteam.com

TABLE OF CONTENT

1. SUMMARY OF TEST RESULT

EMISSION		
Description of Test Item	Standard & Limits	Results
MPE	FCC Part 1(1.1310) and Part 2(2.1091), Part 2(2.1093) KDB 680106 D01 RF Exposure Wireless Charging App v03r01	Pass
Note: N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product Name	Magnetic Power Bank with Foldable Stand
Trade Name	ADAM elements
Model Name	GRAVITY CS10, GRAVITY CS5
Model Differences	The battery capacity of GRAVITY CS10 is 10000mAh. The battery capacity of GRAVITY CS5 is 5000mAh. All the models have the same circuit diagram and PCB layout, except for model name, size, battery capatcity and colour.
Series Model	N/A
Test Model	GRAVITY CS10
Operation frequency	110-205KHz
Modulation Type	FSK
Antenna Type	Inductive Loop Antenna with 11 Turns
Wireless Charging	5W/7.5W/10W/15W
Hardware version number	V1.0
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the User's Manual

2.2. 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:

	Mode	TEST MODE DESCRIPPTION
	1	Standby
	2	Wireless Charging(5W)
	3.	Wireless Charging(7.5W)
	4	Wireless Charging(10W)
	5	Wireless Charging(15W)
Note: 1. All test modes were pre - tested, but we only recorded the worst case in this report.		

2.3. Description of Support Device

No.	Equipment	Trade name	Model	S/N	Input/ Output
1.	Mobile phone	Xiao mi	Mi 11	6F7DFA8A	50W MAX.
2.	ADAPTER	Huanwei		/	Input:100-240VAC, 50/60Hz Output: 5V3A, 9V2A
3.					
4.					

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For MPE Measurement

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	Electric and MagneticField Probe - Analyzer	Narda	EHP-2001	101168	June 24, 2023	1 Year

4. RF EXPOSURE

4.1. Measuring Standard

FCC Part 1(1.1310) and Part 2(2.1091), Part 2(2.1093)

4.2. Requiments

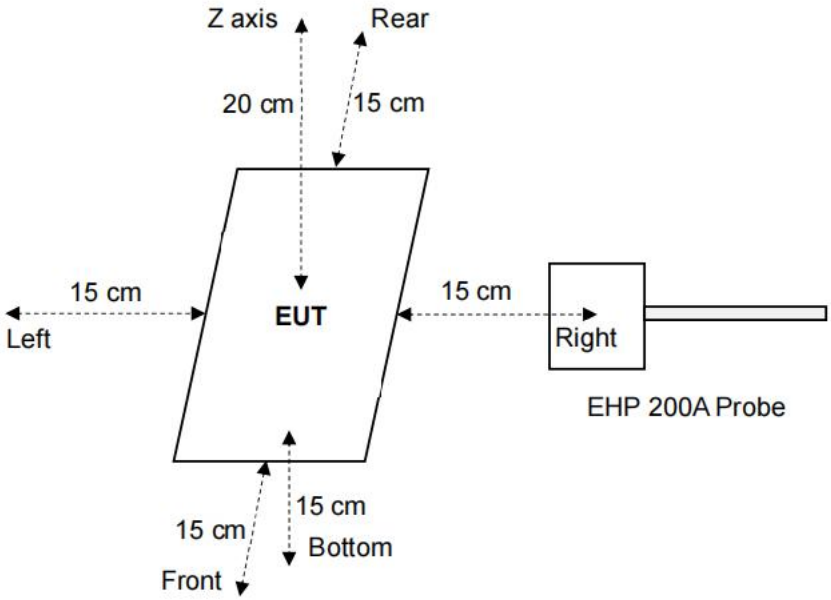
Three different categories of transmitters are defined by the FCC in OET Bulletin 65. These categories are fixed installation, mobile, and portable and are defined as follows: o Fixed Installations: fixed location means that the device, including its antenna, is physically secured at a permanent location and is not able to be easily moved to another location. Additionally, distance to humans from the antenna is maintained to at least 2 meters. o Mobile Devices: a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to be generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structures and the body of the user or nearby persons. Transmitters designed to be used by consumers or workers that can be easily re-located, such as a wireless modem operating in a laptop computer, are considered mobile devices if they meet the 20 centimeter separation requirement. The FCC rules for evaluating mobile devices for RF compliance are found in 47 CFR §2.1091. o Portable Devices: a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user. Portable device requirements are found in Section 2.1093 of the FCC's Rules (47 CFR§2.1093). The FCC also categorizes the use of the device as based upon the user's awareness and ability to exercise control over his or her exposure. The two categories defined are Occupational/ Controlled Exposure and General Population/Uncontrolled Exposure. These two categories are defined as follows: Occupational/Controlled Exposure: In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program. If appropriate, warning signs and labels can also be used to establish such awareness by providing prominent information on the risk of potential exposure and instructions on methods to minimize such exposure risks. General Population/Uncontrolled Exposure: The general population / uncontrolled exposure limits are applicable to 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 made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

4.3. Test configuration

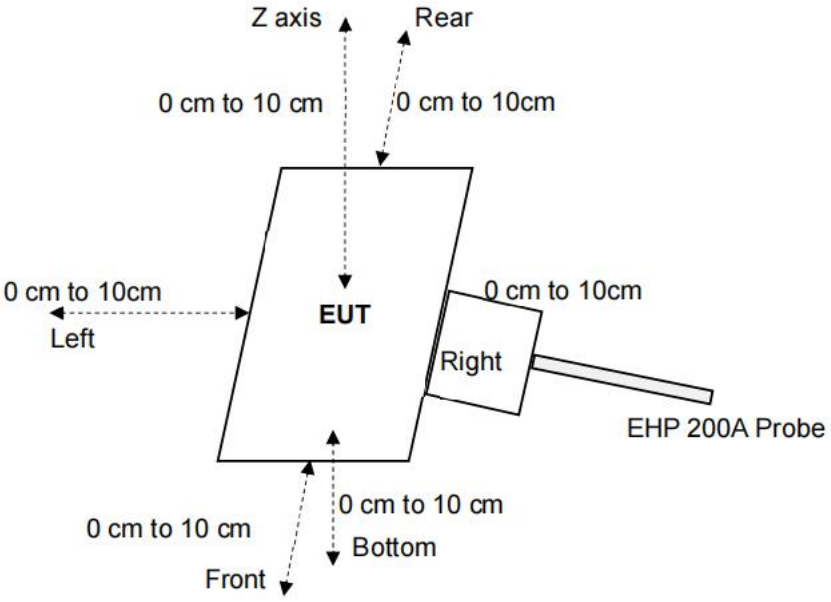
For mobile exposure conditions:
a. The RF exposure test was performed in anechoic chamberb. E and H-field measurements should be made with the center of the probe at a distance of 15 cmsurrounding the EUT and 20 cm above the top surface of the primary/client pair.c. The highest emission level was recorded and compared with limit.d. The EUT was measured according to the dictates of KDB 680106 v03r01
For portable exposure conditions:
a. The RF exposure test was performed in anechoic chamber.
b. E and H-field measurements should be made with the probe at 0 cm for all side of the EUT.c. The highest emission level was recorded and compared with limit
For portable exposure conditions.Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, startingfrom as close as possible out to 10 cm

4.4. Block Diagram of Test Setup

For mobile exposure conditions：



For portable exposure conditions：



4.5. Limits

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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

4.6. Measuring Results

Result:

a) Power transfer frequency is less that 1 Mhz.

Yes,The device operates in the frequency 110Khz-205khz.

b) Output power from each primary coil is less than or equal to 15watts.

Yes,The maximum output power of the primary coil is Max 15W.

c) The transfer system includes onle 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 only single primary coils.

d) Client device is placed directly in contact with the transmitter.

Yes, Client device is placed directly in contact with the transmitter.

e) Mobile exposure conditions only (portable exposure conditions art not covered by this exclusion).

Yes, Mobile exposure condition only.

f) The aggregate H-Field strengths at 15 cm surrounding the device and 20 cm above the top surface form all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

The EUT H-field strengths at 15 cm surrounding the device and 20 cm above the top surface are less than 50%the MPE limit.

TEST Data:

For mobile exposure condition:

Test condition 1: Mode 5 operating mode with client device (1 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)	Measurement	Limit	Max. Percentage (%)
1	Z axis	0.7946	614	0.13%	0.0480	1.63	3.06%
	Left	0.3539			0.0498		
	Right	0.7216			0.0487		
	Front	0.3455			0.0495		
	Rear	0.3539			0.0498		
	Bottom	0.3529			0.0482		

Test condition 2: Mode 5 operating mode with client device (50 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	0.8010	614	0.13%	0.0499	1.63	3.12%
	Left	0.3488			0.0508		
	Right	0.7165			0.0488		
	Front	0.3516			0.0482		
	Rear	0.3527			0.0482		
	bottom	0.3538			0.0483		

Test condition 3: Mode 5 operating mode with client device (99 % battery status of client device)

Antenna	Probe Position	E –field (V/m)			H–field (A/m)		
		Measurement	Limit	Percentage (%)	Measurement	Limit	Percentage (%)
1	Z axis	0.7867	614	0.13%	0.0488	1.63	3.04%
	Left	0.3512			0.0495		
	Right	0.7055			0.0476		
	Front	0.3574			0.0488		
	Rear	0.3568			0.0488		
	bottom	0.3539			0.0488		

For portable exposure condition:

Note: operating modes with client device (1 %, 50%, 99% battery status of client device) have been testonly show the data of worst case of 1% battery status of client device.Test condition 1: Mode 5 operating mode with client device (1 % battery status of client device

Test distance: 0cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.7122	1.63	43.7%
	Left	0.1591		
	Right	0.2781		
	Front	0.0604		
	Rear	0.1317		
	Bottom	0.0907		

Test condition 2: Mode 5 operating mode with client device (50 % battery status of client device)

Test distance: 2cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.3944	1.63	24.2%
	Left	0.1171		
	Right	0.1092		
	Front	0.0902		
	Rear	0.0465		
	Bottom	0.0983		

Test condition 3: Mode 5 operating mode with client device (99 % battery status of client device)

Test distance 4cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0550	1.63	3.46%
	Left	0.0460		
	Right	0.0452		
	Front	0.0482		
	Rear	0.0452		
	Bottom	0.0564		

Test condition 4: Mode 5 operating mode with client device (99 % battery status of client device)

Test distance 6cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0495	1.63	3.13%
	Left	0.0482		
	Right	0.0453		
	Front	0.0482		
	Rear	0.0510		
	Bottom	0.0478		

Test condition 5: Mode 5 operating mode with client device (99 % battery status of client device)

Test distance 8cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0478	1.63	3.04%
	Left	0.0460		
	Right	0.0482		
	Front	0.0495		
	Rear	0.0465		
	Bottom	0.0482		

Test condition 6: Mode 5 operating mode with client device (99 % battery status of client device)

Test distance 10cm

Antenna	Probe Position	H–field (A/m)		
		Measurement	Limit	Max. Percentage (%)
1	Z axis	0.0482	1.63	3.24%
	Left	0.0460		
	Right	0.0482		
	Front	0.0478		
	Rear	0.0478		
	Bottom	0.0528		

Testing photo

20cm

15cm

Address:No.11,WuSongRoad,
DongchengDistrict,Dongguan,
GuangdongProvince,China523117
Tel: 86-769-22607797
Fax: 86-769-22607907
http://www.cpcteam.com

0cm

---THE END---

Address:No.11,WuSongRoad,
DongchengDistrict,Dongguan,
GuangdongProvince,China523117
Tel: 86-769-22607797
Fax: 86-769-22607907
http://www.cpcteam.com