

Test Report

Report No.: MTi240711004-14E2

Date of issue: 2024-11-26

Applicant: Adam Elements International Co., LTD.

Product: Qi2 3-in-1 Foldable Travel Charging Station

Model(s): Mag 360

FCC ID: 2ABY9MAG-360

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.cn>

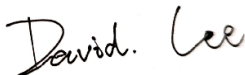
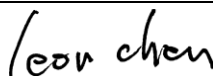
Instructions

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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:	Adam Elements International Co., LTD.
Address:	8F.-5, No. 148, Sec. 4, Zhongxiao E. Rd., Da'an Dist., Taipei City 106, Taiwan
Manufacturer:	Shenzhen Smacat Electronic Technology Co.,Ltd
Address:	301, Building 19, Kejutong Industrial Zone, He'ping Community, Fuyong Street, Bao'an District, Shenzhen, China.
Factory:	Shenzhen Smacat Electronic Technology Co.,Ltd
Address:	301, Building 19, Kejutong Industrial Zone, He'ping Community, Fuyong Street, Bao'an District, Shenzhen, China.
Product description	
Product name:	Qi2 3-in-1 Foldable Travel Charging Station
Trademark:	
Model name:	Mag 360
Series Model:	N/A
Standards:	47 CFR PART 1, § 1.1310
Test method:	KDB 680106 D01 Wireless Power Transfer v04
Date of Test	
Date of test:	2024-09-12 to 2024-10-10
Test result:	Pass

Test Engineer	:	
		(Yanice.Xie)
Reviewed By	:	
		(David Lee)
Approved By	:	
		(Leon Chen)

1 General Description

1.1 Description of the EUT

Product name:	Qi2 3-in-1 Foldable Travel Charging Station
Model name:	Mag 360
Series Model:	N/A
Model difference:	N/A
Electrical rating:	Input:5V 3A,9V 3A,12V 3A,15V 3A Qi2 Wireless Output:5V/5W, 12V/15W Wireless Output:5V/5W, 9V/10W, 9V/15W Watch Output:5V/2.5W max
Accessories:	Cable: Type-C to TypeC 1.5m
Hardware version:	MPP: V03 EPP: V1.5 Watch: V04
Software version:	MPP: 1506-3D-1-MXF-Y306-MPP-V2 EPP:1020N-MXF-306 Watch: 0x7632E04D
Test sample(s) number:	MTi240711004-14S1001
RF specification:	
Operation frequency:	Coil 1: 115-205kHz&360kHz Coil 2: 115-205kHz Coil 3: 300-350kHz
Modulation type:	ASK
Antenna type:	Coil

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 Coil1(5W)+Coil 2(5W)+Watch(2.5W)
Mode2	Wireless output Coil1(5W)+Coil 2(10W)+ Watch(2.5W)
Mode3	Wireless output Coil1(5W)+Coil 2(15W)+ Watch(2.5W)
Mode4	Wireless output Coil1(EPP:15W)+Coil 2(5W)+Watch(2.5W)
Mode5	Wireless output Coil1(EPP:15W)+Coil 2(10W)+Watch(2.5W)
Mode6	Wireless output Coil1(EPP:15W)+Coil 2(15W)+Watch(2.5W)
Mode7	Wireless output Coil1(MPP:15W)+Coil 2(5W)+Watch(2.5W)
Mode8	Wireless output Coil1(MPP:15W)+Coil 2(10W)+Watch(2.5W)
Mode9	Wireless output Coil1(MPP:15W)+Coil 2(15W)+Watch(2.5W)
Mode10	Wireless output Coil1(5W)+Coil 2(5W)
Mode11	Wireless output Coil1(5W)+Coil 2(10W)
Mode12	Wireless output Coil1(5W)+Coil 2(15W)
Mode13	Wireless output Coil1(EPP:15W)+Coil 2(5W)

Mode14	Wireless output Coil1(EPP:15W)+Coil 2(10W)
Mode15	Wireless output Coil1(EPP:15W)+Coil 2(15W)
Mode16	Wireless output Coil1(MPP:15W)+Coil 2(5W)
Mode17	Wireless output Coil1(MPP:15W)+Coil 2(10W)
Mode18	Wireless output Coil1(MPP:15W)+Coil 2(15W)
Mode19	Wireless output Coil 2(5W)+Watch(2.5W)
Mode20	Wireless output Coil 2(10W)+Watch(2.5W)
Mode21	Wireless output Coil 2(15W)+Watch(2.5W)
Mode22	Wireless output Coil1(5W)+Watch(2.5W)
Mode23	Wireless output Coil1(EPP:15W)+Watch(2.5W)
Mode24	Wireless output Coil1(MPP:15W)+Watch(2.5W)
Mode25	Wireless output Coil1(5W)
Mode26	Wireless output Coil1(15W)
Mode27	Wireless output Coil1(EPP:15W)
Mode28	Wireless output Coil1(MPP:15W)
Mode29	Wireless output Coil 2(5W)
Mode30	Wireless output Coil 2(10W)
Mode31	Wireless output Coil 2(15W)
Mode32	Wireless output Watch(2.5W)
Mode33	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
HUAWEI QUICK CHARGE(65W)	HW-200200ZP1	JN67LSN7N03451	HUAWEI
Watch	iWatch SE	FH7PP6BAG91J6	Apple
Mobile phone	iPhone 15	KXPWNQFK90	Apple
Moible Phone	Find x3	/	OPPO
Support cable list			
Description	Length (m)	From	To
/	/	/	/

2 Measurement uncertainty

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

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	3101	2024/3/12	2027/3/11

No.	Equipment	Manufacturer	Model	Software version:	Cal. date	Cal. Due
MTI-E016S	MPE test software	SPEAG	MAGPY 2.6	2.6	/	/

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

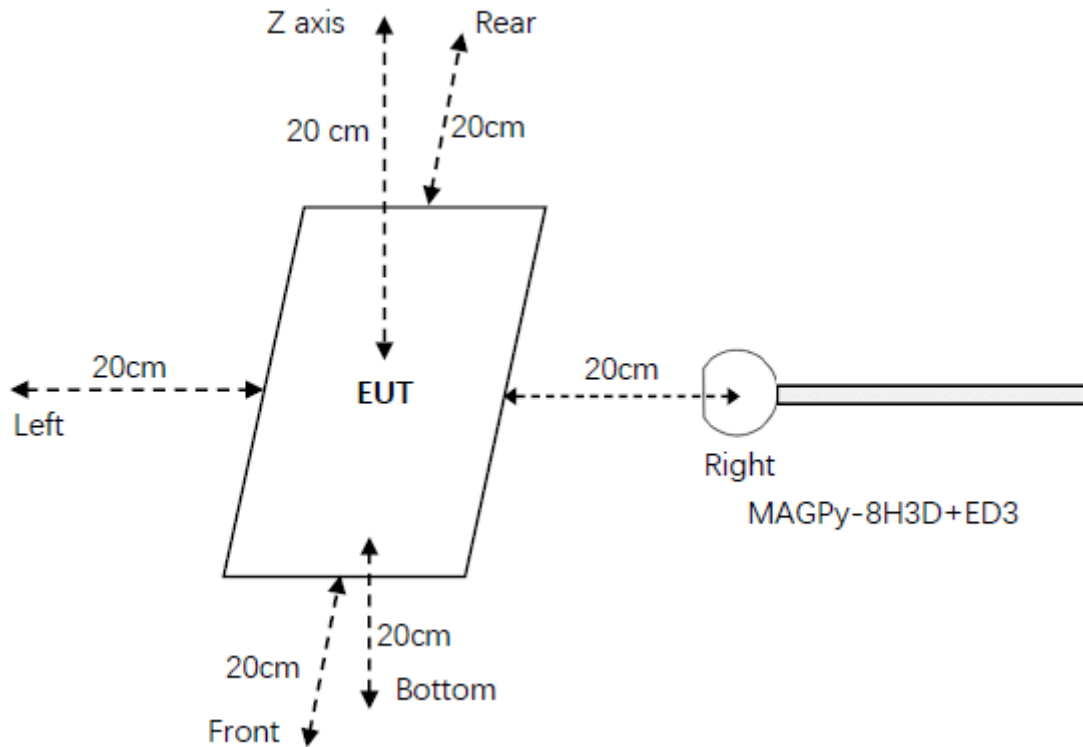
f = frequency in MHz

* = 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

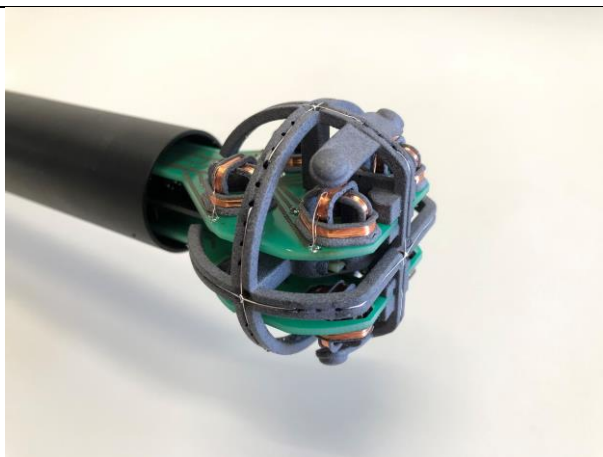


5.3 Test Procedures

- The RF exposure test was performed in anechoic chamber.
- 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]").
- The highest emission level was recorded and compared with limit.
- 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/monopole (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 6 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	0.7	614	0.16%	0.02	1.63	1.84%
Left	0.97			0.03		
Right	0.68			0.02		
Front	0.62			0.03		
Rear	0.78			0.02		
Bottom	0.33			0.01		

Test condition 2: Mode 6 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	0.61	614	0.13%	0.02	1.63	1.23%
Left	0.82			0.02		
Right	0.58			0.01		
Front	0.53			0.02		
Rear	0.66			0.01		
Bottom	0.28			0.009		

Test condition 3: Mode 6 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	0.49	614	0.11%	0.02	1.63	1.23%
Left	0.68			0.01		
Right	0.48			0.009		
Front	0.43			0.01		
Rear	0.55			0.008		
Bottom	0.23			0.006		

Test condition 1: Mode 9 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	2.65	614	0.59%	0.01	1.63	2.45%
Left	1.66			0.04		
Right	0.58			0.03		
Front	0.52			0.02		
Rear	0.68			0.01		
Bottom	0.37			0.01		

Test condition 2: Mode 9 operating mode with client device (1 % 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	2.31	614	0.38%	0.01	1.63	1.84%
Left	1.63			0.03		
Right	0.52			0.02		
Front	0.48			0.02		
Rear	0.6			0.01		
Bottom	0.32			0.009		

Test condition 3: Mode 9 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	1.86	614	0.30%	0.01	1.63	1.23%
Left	1.16			0.02		
Right	0.41			0.02		
Front	0.36			0.01		
Rear	0.48			0.009		
Bottom	0.26			0.008		

Photographs of the Test Setup

See the Appendix - Test Setup Photos.

Photographs of the EUT

See the Appendix - EUT Photos.

----End of Report----