

RF EXPOSURE Test Report

Product: Magnetic wireless powerbank with
capacity display

Trade Mark: /

Model Number: M2036Q

FCC ID: 2A9Q9-M2036Q

Prepared for

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's Name..... : ShenZhen Zhongyi Technology CO., Ltd.
Room 401, No.4 Road One, Shangxue Science and Technology
Address : City, Xinxue Community, Bantian Street, Longgang District,
Shenzhen, China
Manufacturer's Name : ShenZhen Zhongyi Technology CO., Ltd.
Room 401, No.4 Road One, Shangxue Science and Technology
Address : City, Xinxue Community, Bantian Street, Longgang District,
Shenzhen, China


Product description

Product name : Magnetic wireless powerbank with capacity display
Model Number : M2036Q
Standards..... : FCC CFR 47 PART 1 , 1.1310
Test procedure..... : KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01
This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.


Date of Test..... :

Date (s) of performance of tests..... : September 16, 2023~September 28, 2023

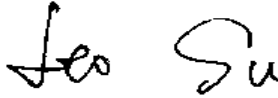
Test Result..... : **Pass**

Testing Engineer : 

(Z o e S u)

Technical Manager : 

(G a r y L u)

Authorized Signatory : 

(L e o S u)

1 General Description

1.1 Description of EUT

Product name:	Magnetic wireless powerbank with capacity display
Model name:	M2036Q
Series Model:	/
Different of series model:	N/A
Operation frequency:	110–205 kHz
Operational mode:	Wireless charging
Modulation type:	ASK
Antenna type:	Coil Antenna
Hardware version:	V1.0
Software version:	V1.0
Power supply:	Type C Input: 5V=2.6A, 9V=2A, 12V=1.5A 18W(Max) Type C Output: 5V=3A, 9V=2.22A, 12V=1.67A 20W(Max) USB-A Output: 5V=4.5A, 9V=2A, 12V=1.5A 22.5W(Max) Wireless Output: 5W/7.5W/10W/15W
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	Wireless charging 5W
2	Wireless charging 7.5W
3	Wireless charging 10W
4	Wireless charging 15W (Recorded)

Note: All test modes were pre-tested, but we only recorded the worst case in this report.

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Dummy load	DL01	/	/

2 Test Facilities and Accreditations

2.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

2.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

2.3 Measurement Uncertainty

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

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
RF power, conducted	± 0.57 dB	
Conducted emission(150kHz~30MHz)	± 2.5 dB	
Radiated emission(30MHz~1GHz)	± 4.2 dB	
Radiated emission (above 1GHz)	± 4.7 dB	
Temperature	± 1 degree	
Humidity	± 5 %	

2.4 Test Software

Software name	Manufacturer	Model	Version
EHP200-TS	Narda	EHP-200A	Rel 1.95

3 List of Test Equipment

Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E073	Electric and Magnetic Field Analyzer	Narda	EHP-200A	180ZX11013	2023-06-09	2024-06-08

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4 RF Exposure

4.1 Maximum Permissible Exposure

4.1.1. Limit

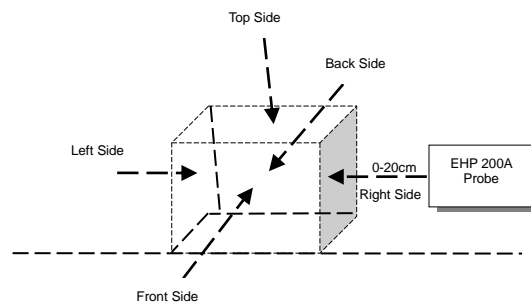
Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm ²)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0 6	6
300-1500			f/300	6
1500-100000			5	6
(B) 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
300-1500			f/1500	30
1500-100000			1	30

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

4.1.2. Test Procedures

- a. The RF exposure test was performed in anechoic chamber.
- b. Perform H-field measurements for each edge/top surface of the host/client pair at every 2 cm, starting from as close as possible out to 20 cm.
- c. The highest emission level was recorded and compared with limit.
- d. The EUT was measured according to the dictates of TCB Workshop "41-Part-18-&-Wireless-Power-Transfer - April 27, 2022"

4.1.3. Test Setup



4.1.4. Test Result

Maximum permissible Exposure									
Battery levels	Field Strength	Test sides					Test distance(cm)	50% Limits	Limits
		Top	Left	Right	Front	Back			
<1%	A/m	0.472	0.485	0.475	0.486	0.484	0	0.815	1.63
<1%	V/m	1.381	1.396	1.389	1.395	1.392	0	307	614
<1%	A/m	0.470	0.483	0.474	0.483	0.482	2	0.815	1.63
<1%	V/m	1.380	1.394	1.385	1.392	1.390	2	307	614
<1%	A/m	0.468	0.482	0.475	0.484	0.481	4	0.815	1.63
<1%	V/m	1.377	1.391	1.383	1.391	1.388	4	307	614
<1%	A/m	0.465	0.480	0.474	0.485	0.476	6	0.815	1.63
<1%	V/m	1.378	1.389	1.384	1.387	1.385	6	307	614
<1%	A/m	0.462	0.476	0.475	0.481	0.472	8	0.815	1.63
<1%	V/m	1.379	1.386	1.382	1.385	1.383	8	307	614
<1%	A/m	0.460	0.473	0.472	0.479	0.470	10	0.815	1.63
<1%	V/m	1.377	1.384	1.380	1.382	1.381	10	307	614
<1%	A/m	0.458	0.471	0.473	0.477	0.468	12	0.815	1.63
<1%	V/m	1.375	1.382	1.378	1.383	1.378	12	307	614
<1%	A/m	0.456	0.470	0.474	0.475	0.466	14	0.815	1.63
<1%	V/m	1.374	1.380	1.375	1.381	1.376	14	307	614
<1%	A/m	0.453	0.467	0.472	0.475	0.464	16	0.815	1.63
<1%	V/m	1.372	1.378	1.372	1.379	1.373	16	307	614
<1%	A/m	0.451	0.466	0.470	0.473	0.462	18	0.815	1.63
<1%	V/m	1.368	1.375	1.368	1.376	1.371	18	307	614
<1%	A/m	0.450	0.463	0.467	0.470	0.459	20	0.815	1.63
<1%	V/m	1.366	1.373	1.364	1.375	1.368	20	307	614

Maximum permissible Exposure									
Battery levels	Field Strength	Test sides					Test distance(cm)	50% Limits	Limits
		Top	Left	Right	Front	Back			
<50%	A/m	0.474	0.486	0.478	0.485	0.483	0	0.815	1.63
<50%	V/m	1.384	1.390	1.385	1.391	1.394	0	307	614
<50%	A/m	0.472	0.483	0.476	0.483	0.481	2	0.815	1.63
<50%	V/m	1.382	1.388	1.383	1.389	1.392	2	307	614
<50%	A/m	0.470	0.480	0.473	0.481	0.478	4	0.815	1.63
<50%	V/m	1.380	1.384	1.382	1.387	1.390	4	307	614
<50%	A/m	0.467	0.478	0.471	0.479	0.476	6	0.815	1.63
<50%	V/m	1.376	1.381	1.380	1.385	1.387	6	307	614
<50%	A/m	0.464	0.475	0.467	0.476	0.473	8	0.815	1.63
<50%	V/m	1.373	1.378	1.378	1.383	1.385	8	307	614
<50%	A/m	0.462	0.473	0.464	0.473	0.471	10	0.815	1.63
<50%	V/m	1.370	1.376	1.375	1.380	1.383	10	307	614
<50%	A/m	0.462	0.473	0.464	0.473	0.469	12	0.815	1.63

<50%	V/m	1.366	1.373	1.374	1.380	1.383	12	307	614
<50%	A/m	0.459	0.471	0.463	0.469	0.465	14	0.815	1.63
<50%	V/m	1.364	1.372	1.371	1.377	1.380	14	307	614
<50%	A/m	0.457	0.468	0.461	0.465	0.462	16	0.815	1.63
<50%	V/m	1.361	1.367	1.368	1.374	1.376	16	307	614
<50%	A/m	0.453	0.464	0.458	0.463	0.457	18	0.815	1.63
<50%	V/m	1.356	1.364	1.363	1.371	1.372	18	307	614
<50%	A/m	0.450	0.462	0.454	0.457	0.454	20	0.815	1.63
<50%	V/m	1.352	1.362	1.360	1.366	1.368	20	307	614

Maximum permissible Exposure									
Battery levels	Field Strength	Test sides					Test distance(cm)	50% Limits	Limits
		Top	Left	Right	Front	Back			
<99%	A/m	0.473	0.488	0.477	0.492	0.484	0	0.815	1.63
<99%	V/m	1.383	1.394	1.387	1.404	1.396	0	307	614
<99%	A/m	0.470	0.486	0.475	0.490	0.481	2	0.815	1.63
<99%	V/m	1.381	1.390	1.384	1.398	1.394	2	307	614
<99%	A/m	0.468	0.482	0.473	0.487	0.480	4	0.815	1.63
<99%	V/m	1.378	1.387	1.382	1.396	1.391	4	307	614
<99%	A/m	0.471	0.480	0.475	0.485	0.477	6	0.815	1.63
<99%	V/m	1.379	1.384	1.386	1.393	1.388	6	307	614
<99%	A/m	0.467	0.477	0.472	0.483	0.475	8	0.815	1.63
<99%	V/m	1.377	1.383	1.382	1.391	1.384	8	307	614
<99%	A/m	0.464	0.475	0.467	0.481	0.472	10	0.815	1.63
<99%	V/m	1.375	1.378	1.380	1.387	1.383	10	307	614
<99%	A/m	0.461	0.472	0.466	0.478	0.470	12	0.815	1.63
<99%	V/m	1.373	1.374	1.377	1.384	1.381	12	307	614
<99%	A/m	0.460	0.469	0.463	0.472	0.467	14	0.815	1.63
<99%	V/m	1.371	1.372	1.374	1.381	1.377	14	307	614
<99%	A/m	0.457	0.465	0.460	0.469	0.464	16	0.815	1.63
<99%	V/m	1.367	1.370	1.371	1.378	1.374	16	307	614
<99%	A/m	0.454	0.462	0.457	0.466	0.461	18	0.815	1.63
<99%	V/m	1.362	1.366	1.368	1.374	1.372	18	307	614
<99%	A/m	0.452	0.459	0.453	0.462	0.456	20	0.815	1.63
<99%	V/m	1.358	1.362	1.364	1.371	1.370	20	307	614

5 Photographs of the Test Setup

MPE



***** END OF REPORT *****