



RF EXPOSURE REPORT

Applicant	:	Shenzhen Romoss Technology Co.,Ltd
Address of Applicant	:	Room 1601, BLOCK B, Building 7, Shenzhen International Innovation Valley, Nanshan, Shenzhen, Guangdong, P.R.China
Manufacturer	:	Jiangmen Romoss Technology Co., Ltd.
Address of Manufacturer	:	Room 01-2, First floor, Building 8, No. 80, Renhe Road, Tangxia Town, Pengjiang District, Jiangmen City
Equipment under Test	:	Fast Charging Power Bank
Model No.	:	WMO10C-221
FCC ID	:	2A6QM-WMO10C-221
Test Standard(s)	:	FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118
Report No.	:	DDT-RE24080636-2E04
Issue Date	:	2024/08/22
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

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Test Report Declare

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Test Standard Used:

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We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24080636-2E04		
Date of Receipt:	2024/08/09	Date of Test:	2024/08/09 - 2024/08/22

Prepared By:

Johnson Huang

Johnson Huang/Engineer

Approved By:

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/08/22	

1. General Test Information

1.1. Description of EUT

EUT Name	: Fast Charging Power Bank
Model Number	: WMO10C-221
EUT Function Description	: Please reference user manual of this device
Power Supply	: 5V=3A/9V=3A/12V=2.5A/9V=3A/15V=2A from USB cable or DC 7.4V built-in battery
Wireless charging Operation frequency	: 115-205 kHz
Antenna Type	: Inductive loop coil antenna

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☒” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

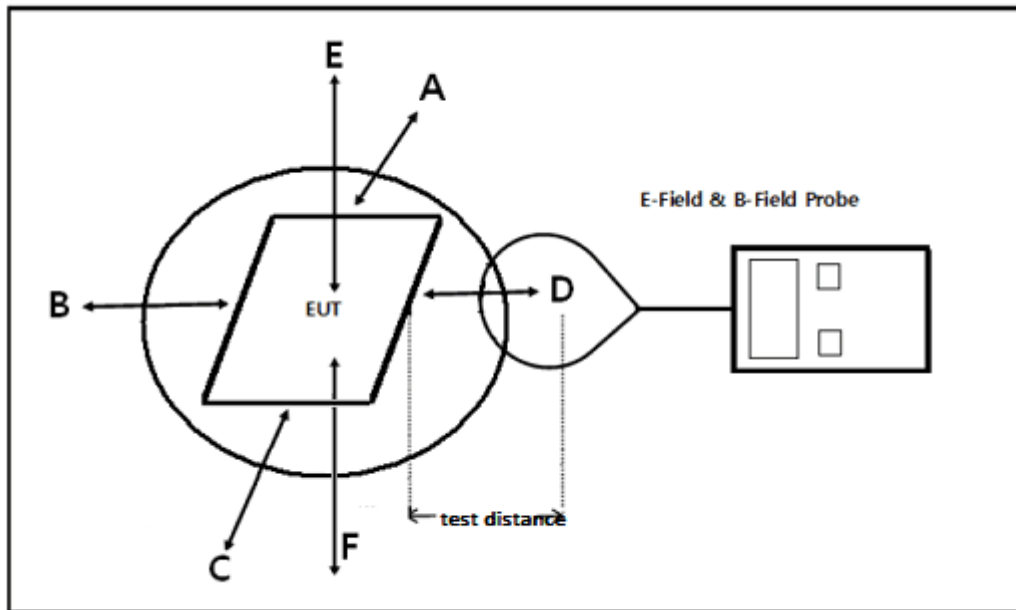
VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2. RF Exposure evaluation for FCC

2.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2024/09/20

2.2. Block diagram of test setup



2.3. Limits

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated. According KDB 680106 D01 Wireless Power Transfer v04..

TABLE 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)
(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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

2.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Dummy load	/	/	/	/
Phone	Apple Inc.	iPhone 15	N/A	N/A

2.5. Test procedure

- a) The RF exposure test was performed in shielded chamber.
- b) The measurement probe was placed at test distance (0cm, 2cm, 4cm, 6cm, 8cm, 10cm, 15 cm, 20 cm) which is between the edge of the charger and the geometric centre of probe.
- c) The measurement probe used to search of highest strength.
- d) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- e) The EUT were measured according to the dictates of KDB 680106 D01 Wireless Power Transfer v04.

Equipment approval considerations:

The EUT does comply with section 5.2 of KDB 680106 D01 Wireless Power Transfer v04.

(1) Power transfer frequency is less than 1 MHz.

Yes, the device operates in the frequency range from 115 kHz - 205 kHz

(2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts.

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

(3) A client device providing the maximum permitted load is placed in physical contact with the transmitter(i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact)

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

(4) Only §2.1091-Mobile exposure conditions apply (i.e, this provision does not cover § 2.1093-Portable exposure conditions).

No, the EUT is for portable exposure.

(5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1.

These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inversedistance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios(i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.

Yes, the E-field and H-field strengths levels are less than 50% of MPE limit.

(6) 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.

No, the transfer system only includes one primary coils.

2.6. Test result

Mobile phone has been charge at zero charge, intermediate charge, and full charge with iphone
Magnetic Field Emissions(WPC)

Note:

1. During the test the phone is attached the network in WWAN traffic mode and Wifi/BT is connected.
2. All test modes were pre-tested, but we only recorded the worst case in this report.

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	0	A	2.8894	2.4605	2.5574	307
		B	2.7981	2.1006	2.5800	307
		C	2.4180	1.5924	2.3011	307
		D	1.4199	1.4277	1.3985	307
		E	3.4432	3.8164	3.2442	307
		F	5.1823	4.9297	4.6715	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	0	A	0.5735	0.4728	0.5030	0.815
		B	0.1690	0.1377	0.1203	0.815
		C	0.5218	0.4018	0.3280	0.815
		D	0.3141	0.2934	0.2349	0.815
		E	0.2121	0.1492	0.1226	0.815
		F	0.2595	0.2540	0.1970	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	2	A	1.4871	1.7373	1.8253	307
		B	1.4127	1.4379	1.4481	307
		C	2.4464	1.5156	1.3216	307
		D	0.9643	0.9709	0.8884	307
		E	1.7291	1.7049	1.8067	307
		F	2.1361	2.8645	2.5034	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	2	A	0.4632	0.0761	0.1034	0.815
		B	0.0793	0.0575	0.0539	0.815
		C	0.1085	0.0875	0.0877	0.815
		D	0.1047	0.0898	0.0727	0.815
		E	0.0630	0.0554	0.0553	0.815
		F	0.1113	0.0752	0.0607	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	4	A	1.0045	1.3020	1.136	307
		B	1.1504	1.1122	1.0687	307
		C	1.0179	1.2889	1.0925	307
		D	0.668	0.8427	0.7216	307
		E	1.0223	1.4767	1.2503	307
		F	1.5400	1.8319	1.9609	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	4	A	0.0626	0.0627	0.0626	0.815
		B	0.0644	0.0569	0.0563	0.815
		C	0.0833	0.0695	0.0590	0.815
		D	0.0636	0.0730	0.0604	0.815
		E	0.0554	0.0549	0.0553	0.815
		F	0.0828	0.0920	0.0553	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	6	A	0.9414	0.9176	0.8800	307
		B	0.9800	0.8117	0.5564	307
		C	0.8550	0.8065	0.8962	307
		D	0.6183	0.5577	0.5705	307
		E	0.8521	0.8359	0.9209	307
		F	0.8420	1.0470	1.1777	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	6	A	0.0538	0.0554	0.0538	0.815
		B	0.0580	0.0553	0.0553	0.815
		C	0.0563	0.0563	0.0563	0.815
		D	0.0667	0.0590	0.0553	0.815
		E	0.0569	0.0563	0.0553	0.815
		F	0.1165	0.0589	0.0604	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	8	A	0.8429	0.7471	0.7503	307
		B	0.6160	0.5730	0.7216	307
		C	0.6939	0.6416	0.8577	307
		D	0.4874	0.5203	0.5435	307
		E	0.7772	0.5642	0.6710	307
		F	0.9046	0.7285	0.9276	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	8	A	0.0564	0.0553	0.0589	0.815
		B	0.0589	0.0575	0.0590	0.815
		C	0.0567	0.0553	0.0589	0.815
		D	0.0553	0.0557	0.0564	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	10	E	0.0538	0.0553	0.0604	0.815
		F	0.0569	0.0589	0.0564	0.815
		A	0.6173	0.6520	0.6271	307
		B	0.5915	0.6019	0.5002	307
		C	0.6078	0.6655	0.5005	307
		D	0.4175	0.4638	0.4207	307
		E	0.5834	0.5285	0.4762	307
		F	0.5372	0.6025	0.7672	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	10	A	0.0546	0.049	0.0563	0.815
		B	0.0563	0.0553	0.0540	0.815
		C	0.0588	0.0564	0.0589	0.815
		D	0.0577	0.0564	0.0550	0.815
		E	0.0564	0.0577	0.0538	0.815
		F	0.0533	0.0550	0.0578	0.815

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	20	A	0.4152	0.3906	0.3808	307
		B	0.4101	0.3734	0.3887	307
		C	0.3734	0.3906	0.3906	307
		D	0.3906	0.3734	0.3834	307
		E	0.4059	0.3834	0.3887	307
		F	0.4029	0.3734	0.4002	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	intermediate charge	
Operation mode	20	A	0.0553	0.0553	0.0610	0.815
		B	0.0564	0.0589	0.0564	0.815
		C	0.0554	0.0569	0.0553	0.815
		D	0.0601	0.0578	0.0563	0.815
		E	0.0595	0.0580	0.0546	0.815
		F	0.0578	0.0564	0.0577	0.815

The distance from the probe measuring point to the EUT surface is 2mm
(Estimated value) =2cm (actual value) *4cm (actual value) /6cm (actual value)
According to the following table, when we backward derivation 0cm, it should be 3.9069(V/m), with a deviation from the actual test value of 24.6%.

Measure Result V/m			
0cm	2cm	4cm	6cm
5.1823	2.1361	1.54	0.842

According to the following table, when we backward derivation 0cm, it should be 0.5390(A/m), with a deviation from the actual test value of 6.0%.

Measure Result A/m			
0cm	2cm	4cm	6cm
0.5735	0.4632	0.0626	0.0538