RF EXPOSURE REPORT

Applicant	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Applicant	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone
Manufacturer	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Manufacturer	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone
Equipment under Test	:	Magnetic Power Bank
Model No.	:	J2921, J2922 ,J2923, J2924 ,J2925 ,J2926 ,J2927, J2928, J2929 ,J2930,N2921, N2922 ,N2923 ,N2924, N2925 ,N2926 ,N2927 ,N2928 ,N2929 ,N2930,Z2921 ,Z2922, Z2923, Z2924, Z2925 ,Z2926, Z2927, Z2928 ,Z2929 ,Z2930,PW-051C1W22W, W204, A2921, A2922, A2923
FCC ID	:	2BFS6-J2921
Test Standard(s)	:	FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118
Report No.	:	DDT-RE24061321-1E04
Issue Date	:	2024/07/12
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Manufacturer	:	Tianjin Zowda New Energy Technology Co., Limited
Address of Manufacturer	:	NO.71 Xinhuan South Street, West Zone of Tianjin Economic and Technology Development Zone

Test Standard Used:

FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118

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-RE24061321-1E04		
Date of Receipt:	2024/06/17	**Date of Test:**	2024/06/17~2024/07/12

Prepared By:

Tiger Mo

Tiger Mo/Engineer

Approved By:

Damon Hu

Certificate and Report Seal
检验检测专用章

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	2024/07/12	

1. General Test Information

1.1. Description of EUT

EUT Name	:	Magnetic Power Bank
Model Number	:	J2921, J2922 ,J2923, J2924 ,J2925 ,J2926 ,J2927, J2928, J2929 ,J2930,N2921, N2922 ,N2923 ,N2924, N2925 ,N2926 ,N2927 ,N2928 ,N2929 ,N2930,Z2921 ,Z2922, Z2923, Z2924, Z2925 ,Z2926, Z2927, Z2928 ,Z2929 ,Z2930, PW-051C1W22W, W204, A2921, A2922, A2923
Difference of model number	:	Above models are identical in schematic and structure, only the Model Number and appearance colour are different for all the models, therefore the test performed on the model PW-051C1W22W.
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	TYPE-C1/C2 Intput: 5V/3A, 9V/2.2A, 12V/1.65A, or DC 3.85V Polymer Li-ion built-in battery TYPE-C1/C2 output: 5V/3A, 9V/2.22A, 12V/1.67A, pps 5~11V 2A wireless charging output: 5W/7.5W/10W/15W
Hardware Version	:	PW-051C1W22W V1.1
Software Version	:	V1.6_0x1FB550AB(3).hex

Wireless charging Operation frequency	:	115 kHz-200kHz
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

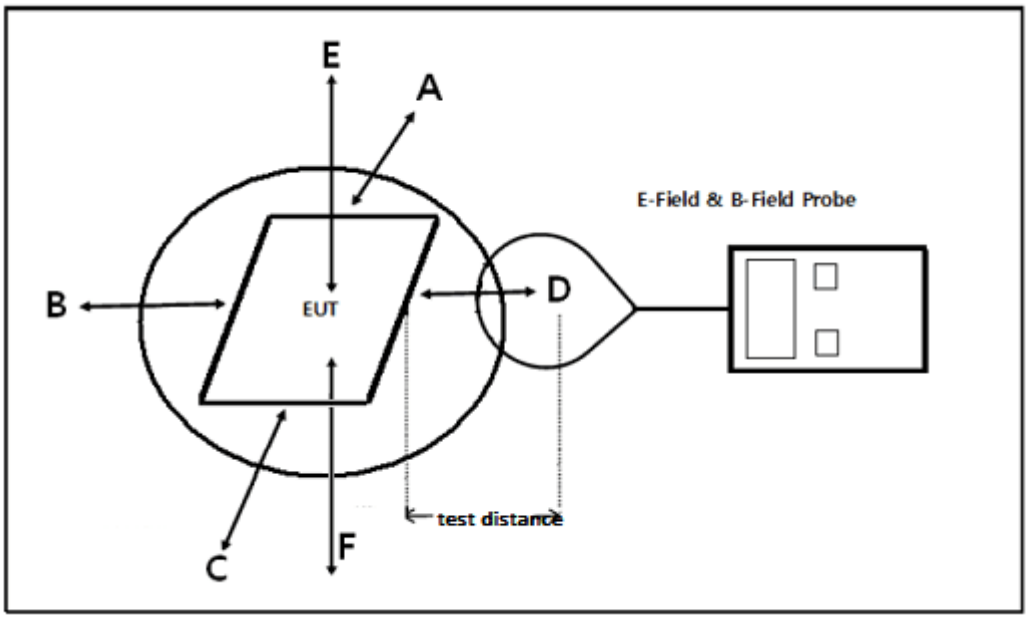
VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

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/f2	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/f2	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	N/A	N/A	N/A	N/A
phone	Samsung	SM-G9730	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 transitter 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-Portableexposure 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. Thesemeasurements shall be taken along the principal axes of the device, with one axis oriented along thedirection of the estimated maximum field strength, and for three points per axis or until a l/d (inversedistance from the emitter structure) field strength decay is observed. Symmetry considerations may be usedor test reduction purposes. The device shall be operated in documented worst-case compliance scenariosi.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coilsor 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 onc radiating structure, the conditions specified in (5) must be met whenthe system is fully loaded (i.e, clients absorbing maximum power available), and with all the radiatingstructures operating at maximum power at the same time, as per design conditions. If the design allows oneor 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, orone 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	18.665	17.879	18.236	307
		B	90.236	89.443	**90.262**	307
		C	27.656	26.449	27.623	307
		D	7.995	8.1651	8.662	307
		E	22.369	23.892	23.645	307
		F	20.346	19.790	20.366	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	0	A	0.5216	0.4599	0.5321	0.815
		B	0.5877	0.5768	0.5922	0.815
		C	0.4695	0.4249	0.4526	0.815
		D	0.0955	0.0895	0.0977	0.815
		E	0.6123	0.6538	**0.6632**	0.815
		F	0.3125	0.2850	0.3016	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	3.956	3.3926	4.1321	307
		B	25.364	24.979	**26.322**	307
		C	1.7895	1.7642	1.8236	307
		D	1.2364	1.1830	1.2759	307
		E	8.694	8.2017	8.9654	307
		F	2.4961	2.3737	2.5674	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	2	A	0.1725	0.1578	0.0212	0.815
		B	0.1563	0.1237	0.1436	0.815
		C	0.1236	0.0962	0.1121	0.815
		D	0.0874	0.0615	0.0726	0.815
		E	**0.4416**	0.3336	0.3697	0.815
		F	0.1695	0.1304	0.1533	0.815

Test mode	Test Distance	Test Position	Probe Measure Result(V/m)			50% Limits Test (V/m)
			Full Load	Zero charge	intermediate	

	(cm)				charge	
Operation mode	4	A	3.6949	3.8092	3.9462	307
		B	2.2360	2.0108	2.6595	307
		C	4.9874	4.3061	5.210	307
		D	1.3646	1.1177	1.4263	307
		E	6.2364	6.0178	**6.3623**	307
		F	1.5626	1.4371	1.6232	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	4	A	0.0869	0.0948	0.0796	0.815
		B	0.1969	0.1866	0.2136	0.815
		C	0.0798	0.0907	0.0855	0.815
		D	0.0694	0.0743	0.0846	0.815
		E	0.2116	0.1772	**0.2236**	0.815
		F	0.1563	0.1057	0.1326	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	1.6895	1.6605	1.7692	307
		B	1.2563	1.2312	1.3216	307
		C	3.4236	3.2118	3.5612	307
		D	0.0726	0.0635	0.0799	307
		E	**3.6959**	3.4203	3.5369	307
		F	0.8236	0.7834	0.7764	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	6	A	0.0569	0.0656	0.0723	0.815
		B	**0.1654**	0.1235	0.1419	0.815
		C	0.0744	0.0699	0.0627	0.815
		D	0.0612	0.0517	0.0578	0.815
		E	0.1311	0.1126	0.1236	0.815
		F	0.0824	0.0726	0.0789	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	1.6246	1.5080	1.5642	307
		B	0.6246	0.5705	0.5596	307
		C	1.6985	1.6128	1.6549	307
		D	0.6612	0.5566	0.5869	307
		E	**2.1364**	2.0049	2.0946	307
		F	0.6129	0.5372	0.5941	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	

Operation mode	8	A	0.0623	0.0513	0.0636	0.815
		B	0.0795	0.0711	0.0824	0.815
		C	0.0622	0.0588	0.0611	0.815
		D	0.0589	0.0557	0.0634	0.815
		E	**0.0864**	0.0854	0.0749	0.815
		F	0.0728	0.0648	0.0726	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	A	**1.2632**	1.1060	1.1499	307
		B	0.6129	0.5241	0.5847	307
		C	1.2134	1.1261	1.1964	307
		D	0.3946	0.3734	0.3888	307
		E	1.2111	1.1671	1.2498	307
		F	0.3724	0.3648	0.3846	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	10	A	**0.0642**	0.0540	0.0541	0.815
		B	0.0611	0.0604	0.0611	0.815
		C	0.0522	0.0550	0.0516	0.815
		D	0.0513	0.0545	0.0534	0.815
		E	0.0564	0.0575	0.0527	0.815
		F	0.0459	0.0528	0.0532	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	15	A	0.5122	0.4803	0.5127	307
		B	0.3964	0.3624	0.3866	307
		C	0.4345	0.4245	0.4561	307
		D	0.4122	0.3734	0.3947	307
		E	0.4921	0.4734	0.4833	307
		F	**0.5213**	0.5051	0.5122	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	15	A	0.0596	0.0540	0.0569	0.815
		B	0.0493	0.0528	0.0519	0.815
		C	0.0572	0.0546	**0.0641**	0.815
		D	0.0549	0.0540	0.0611	0.815
		E	0.0471	0.0560	0.0497	0.815
		F	0.0612	0.0580	0.0596	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	0.0522	0.0566	0.0549	307
		B	0.0449	0.0319	**0.0677**	307

		C	0.0611	0.0477	0.0537	307
		D	0.0547	0.0616	0.0592	307
		E	0.0632	0.0522	0.0549	307
		F	0.0498	0.0567	0.0582	307

Test mode	Test Distance (cm)	Test Position	Probe Measure Result(A/m)			50%Limits Test (A/m)
			Full Load	Zero charge	Full Load	
Operation mode	20	A	0.0549	0.0493	0.0522	0.815
		B	0.0534	0.0459	0.0579	0.815
		C	0.0499	0.0522	0.0546	0.815
		D	0.0467	0.0572	0.0436	0.815
		E	0.0539	0.0564	**0.0627**	0.815
		F	0.0519	0.0537	0.0566	0.815

According to the following table, when we backward derivation 0cm, it should be 0.6594(A/m), with a deviation from the actual test value of 0.58%.

0cm	2cm	4cm	6cm
0.6632	**0.4416**	**0.2236**	**0.1654**

4. Photos of the EUT

Please refer to DDT-Q24061321-1E appendix I

----------End Report----------